THE ASTROPHYSICAL JOURNAL

AUTHOR INDEX

PARTS 1 & 2, VOLUMES 591 – 593

2003 JULY 1 TO AUGUST 20

ABADI, MARIO G. Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

ABE, F. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

ABEL, TOM. Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

ABRAMOWICZ, MAREK A. Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

ACTON, S. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

ADAMS, FRED C. Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

ADAMSON, A. J. A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

ADE, P. A. R. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

ADELBERGER, KURT L. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

AFANASIEV, V. L. The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

AFSHORDI, N. Geometrically Thin Disk Accreting into a Black Hole. *N. Afshordi & B. Paczyński.* 592, 354 (2003)

AGOL, ERIC. Finding White Dwarfs with Transit Searches. *Alison J. Farmer & Eric Agol.* 592, 1151 (2003)

AGUEROS, MARCEL A. An X-Ray Image of the Composite Supernova Remnant G16.7+0.1. *David J. Helfand, Marcel A. Agueros, & E. V. Gotthelf.* 592, 941 (2003)

AIKAWA, YURI. Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

AKESON, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

AKIYAMA, SACHIKO. Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

ALDCROFT, THOMAS L. Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar Pair UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

ALLAMANDOLA, L. J. See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

ALLEN, GLENN E. Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

RXTE, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

ALLENDE PRIETO, CARLOS. Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

ALLER, HUGH D. The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

ALLER, MARGO F. The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

ALPAR, M.A. On the Enhanced X-Ray Emission from SGR 1900+14 after the August 27 Giant Flare. *Unal Ertan & M.A. Alpar.* 593, L93 (2003)

ALTAMIRANO, P. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

AMATI, L. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

ANDERSON, SCOTT F. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

ANDERSON, STUART B. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

ANDERSSON, B.-G. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

ANDO, HIROYASU. See AOKI, WAKO, et al. Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

ANDRÉ, M. K. Oxygen Gas-Phase Abundance Revisited. *M. K. André, C. M. Oliveira, J. C. Howk, R. Ferlet, J.-M. Désert, G. Hébrard, S. Lacour, A. Lecavelier des Étangs, A. Vidal-Madjar, & H. W. Moos.* 591, 1000 (2003)

ANNIS, JAMES. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

ANTIOCHOS, S. K. Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

ANTONELLI, L. A. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

AOKI, K. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

AOKI, TSUTOMU. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

AOKI, W. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

AOKI, WAKO. Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching. *Wako Aoki, Sean G. Ryan, Nobuyuki Iwamoto, Timothy C. Beers, John E. Norris, Hiroyasu Ando, Toshitaka Kajino, Grant J. Mathews, & Masayuki Y. Fujimoto.* 592, L67 (2003)

APAI, D. First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

ARAGON-SALAMANCA, ALFONSO. Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

ARGON, ALICE L. A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

ARMOND, TINA. Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

ARNAUD, JEAN. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

ARNAUD, K. A. *Chandra* Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

ARNDT, MARTINA BELZ. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

ARNETT, D. The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

ARP, HALTON C. QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

ARRAS, PHIL. Saturation of the *r*-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

ARRIBAS, S. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

ARRIBAS, SANTIAGO. INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

ASAHARA, A. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

ASHMAN, K. M. Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

AWAKI, H. Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

AYRES, THOMAS R. An Estimate of the Sun's *ROSAT*-PSPC X-Ray Luminosities Using *SNOE*-SXP Measurements. *Philip G. Judge, Stanley C. Solomon, & Thomas R. Ayres.* 593, 534 (2003)

BAADE, DIETRICH. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

See KASEN, DANIEL., et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

BABUL, ARIF. Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

BADENES, CARLES. Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

BADNELL, N. R. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

BAGANOFF, F. K. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

BAHCALL, NETA. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

BAHCALL, NETA A. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

BAI, G. S. Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

BAI, T. Periodicities in Solar Flare Occurrence: Analysis of Cycles 19–23. *T. Bai.* 591, 406 (2003)

BAILER-JONES, CORYN A. L. Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

BAKER, A. C. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

BALDRY, IVAN K. Constraints on a Universal Initial Mass Function from Ultraviolet to Near-Infrared Galaxy Luminosity Densities. *Ivan K. Baldry & Karl Glazebrook.* 593, 258 (2003)

BALICK, BRUCE. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

BALLANTYNE, D. R. The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

BALLESTEROS-PAREDES, JAVIER. Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

BALLY, JOHN. Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

BALOGH, MICHAEL L. Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

BARBUY, BEATRIZ. Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

BARGE, PIERRE. KH 15D: A Star Eclipsed by a Large-Scale Dusty Vortex? *Pierre Barge & M. Viton.* 593, L117 (2003)

BARNES, THOMAS G., III. A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

BARON, E. See KASEN, DANIEL., et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

BARRADO Y NAVASCUES, DAVID. Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

BARRIENTOS, L. FELIPE. The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

BARSONY, M. A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

BARTEL, NORBERT. SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

BARYSHEV, YU. Prediction of the Sidereal Time Distribution of Gravitational Wave Events for Different Detectors. *G. Paturel & Yu. Baryshev.* 592, L99 (2003)

BASILAKOS, S. Galaxy Bias in Quintessence Cosmological Models. *S. Basilakos & M. Plionis.* 593, L61 (2003)

BASRI, GIBOR. Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

BASU, S. A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

BAUGH, CARLTON M. See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

BAUMGARDT, HOLGER. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

BAUTZ, M. W. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

BEASLEY, ANTHONY J. A Relativistic Jet in the Radio-quiet Quasar PG 1407+263. *Katherine M. Blundell, Anthony J. Beasley, & Geoffrey V. Bicknell.* 591, L103 (2003)

BEAUGÉ, C. Extrasolar Planets in Mean-Motion Resonance: Apses Alignment and Asymmetric Stationary Solutions. *C. Beaugé, S. Ferraz-Mello, & T. A. Michtchenko.* 593, 1124 (2003)

BECK, R. Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

BEDDING, TIMOTHY R. Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

BEERS, TIMOTHY C. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

See AOKI, WAKO, et al. Europium Isotope Ratios in s-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

BEGELMAN, MITCHELL C. Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

BEHAR, E. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

BEIERLE, MICHELLE E. Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

BELCZYNSKI, K. The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

BELETIC, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

BELL, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

BELLAZZINI, MICHELE. A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

BELLONI, T. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

BELVEDERE, G. On a Mechanism for Enhancing Magnetic Activity in Tidally Interacting Binaries: Erratum (ApJ, 579, 810 [2002]). *T. Zaqarashvili, G. Javakhishvili, & G. Belvedere.* 591, 498 (2003) (Orig. paper in 579, 810 (2002))

BEMPORAD, A. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

BENJAMIN, R. A. Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

BENN, C. R. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

BENSCH, F. [C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

BENSON, ANDREW J. See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

BENSON, B. A. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies. *B. A. Benson, S. E. Church, P. A. R. Ade, J. J. Bock, K. M. Ganga, J. R. Hinderks, P. D. Mauskopf, B. Philhour, M. C. Runyan, & K. L. Thompson.* 592, 674 (2003)

BERGER, J. O. A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

BERGERON, J. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

BERGERON, P. A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

BERGIN, EDWIN. The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

BERLIN, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

BERLIND, ANDREAS A. The Halo Occupation Distribution and the Physics of Galaxy Formation. *Andreas A. Berlind, David H. Weinberg, Andrew J. Benson, Carlton M. Baugh, Shaun Cole, Romeel Davé, Carlos S. Frenk, Adrian Jenkins, Neal Katz, & Cedric G. Lacey.* 593, 1 (2003)

BERLIND, P. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

BERSIER, D. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

BEST, P. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

BIAN, W. Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

BICKNELL, G. V. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

BICKNELL, GEOFFREY V. The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

A Relativistic Jet in the Radio-quiet Quasar PG 1407+263. *Katherine M. Blundell, Anthony J. Beasley, & Geoffrey V. Bicknell.* 591, L103 (2003)

BIEBER, J. W. Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

BIETENHOLZ, MICHAEL F. SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

BILDSTEN, LARS. Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

BILLÈRES, M. A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

BIRKINSHAW, M. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

BJORKMAN, J. E. Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

BLACKMAN, ERIC G. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

BLAKESLEE, J. P. The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

BLAKESLEE, JOHN P. Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

BLAND-HAWTHORN, JOSS. See REULAND, MICHIEL, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

BLANTON, MICHAEL R. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$. *Michael R. Blanton, David W. Hogg, Neta A. Bahcall, J. Brinkmann, Malcolm Britton, Andrew J. Connolly, István Csabai, Masataka Fukugita, Jon Loveday, Avery Meiksin, Jeffrey A. Munn, R. C. Nichol, Sadanori Okamura, Thomas Quinn, Donald P. Schneider, Kazuhiro Shimasaku, Michael A. Strauss, Max Tegmark, Michael S. Vogeley, & David H. Weinberg.* 592, 819 (2003)

BLOOM, J. S. The Redshift and the Host Galaxy of GRB 980613: A Gammay-Ray Burst from a Merger-induced Starburst? *S. G. Djorgovski, J. S. Bloom, & S. R. Kulkarni.* 591, L13 (2003)

BLOSER, P. F. X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

BLUNDELL, KATHERINE M. A Relativistic Jet in the Radio-quiet Quasar PG 1407+263. *Katherine M. Blundell, Anthony J. Beasley, & Geoffrey V. Bicknell.* 591, L103 (2003)

BOCK, J. J. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

BODEN, A. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

BODENHEIMER, PETER. On the Radii of Extrsolar Giant Planets. *Peter Bodenheimer, Gregory Laughlin, & Douglas N. C. Lin.* 592, 555 (2003)

BÖKER, TORSTEN. Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

BOLTON, ADAM S. Prospects for the Determination of H_0 through Observation of Multiply Imaged Supernovae in Galaxy Cluster Fields. *Adam S. Bolton & Scott Burles.* 592, 17 (2003)

BONANOS, A. Z. Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

BOND, I. A. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

BOND, J. R. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

BOOTH, A. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

BORGANI, S. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

BORKOWSKI, K. J. Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

BORKOWSKI, KAZIMIERZ J. Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

BORNE, K. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

BOROSON, BRAM. *Chandra* Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

BOSMA, A. Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

BOTTA, O. The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

BOTTKE, WILLIAM F. Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levision, & Luke Dones.* 591, 486 (2003)

BOUTELL, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

BOUVIER, J. A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

BOUWENS, RYCHARD. Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

BOWER, R. G. The Transformation of Galaxies within the Large-Scale Structure around a $z = 0.41$ Cluster: Erratum (ApJ, 562, L9 [2001]). *T. Kodama, Ian Smail, F. Nakata, S. Okamura, & R. G. Bower.* 591, L169 (2003) (Orig. paper in 562, L9 (2001))

BOWER, RICHARD G. On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

BRADSHAW, C. F. The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

BRAINERD, TEREASA G. Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

BRANDT, W. N. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

BRAVO, EDUARDO. Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

BREMER, M. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

BREMER, MALCOLM. Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

BRESOLIN, FABIO. The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

BRICEÑO, CÉSAR. Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

BRINKMANN, J. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsemékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

BRINKMANN, JON. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

BRINKMANN, JONATHAN. Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

BRISKEN, WALTER F. Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

BRITTON, MALCOLM. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

BROADHURST, TOM. Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

BRODIE, JEAN P. On the Size Difference between Red and Blue Globular Clusters. *Soren S. Larsen & Jean P. Brodie.* 593, 340 (2003)

BRONFMAN, L. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

BROOS, PATRICK S. 10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry*

Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire. 593, 874 (2003)

Brown, J. C. On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

Brown, Thomas M. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

Brown, Timothy M. Expected Detection and False Alarm Rates for Transiting Jovian Planets. *Timothy M. Brown.* 593, L125 (2003)

Brown, W. R. See Stanek, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

Brüggen, M. Simulations of Buoyant Bubbles in Galaxy Clusters. *M. Brüggen.* 592, 839 (2003)

Equilibrium Models of Galaxy Clusters with Cooling, Heating, and Conduction. *M. Brüggen.* 593, 700 (2003)

Bruhweiler, F. Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

Bryan, Greg L. Eccentricity Evolution in Simulated Galaxy Clusters. *Stephan N. Floor, Adrian L. Melott, Christopher J. Miller, & Greg L. Bryan.* 591, 741 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

Bullock, James S. The Epoch of Reionization in Models with Reduced Small-Scale Power. *Rachel S. Somerville, James S. Bullock, & Mario Livio.* 593, 616 (2003)

Burbidge, E. Margaret. QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

Burbidge, Geoffrey. QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

Burgasser, Adam J. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows, James Liebert, I. Niell Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean.* 592, 1136 (2003)

Burles, Scott. See Sneden, Christopher, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

Prospects for the Determination of H_0 through Observation of Multiply Imaged Supernovae in Galaxy Cluster Fields. *Adam S. Bolton & Scott Burles.* 592, 17 (2003)

Burrows, Adam. Shock Breakout in Core-Collapse Supernovae and Its Neutrino Signature. *Todd A. Thompson, Adam Burrows, & Philip A. Pinto.* 592, 434 (2003)

See Burgasser, Adam J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

Burrows, David N. An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

Burstein, David. The Multiphase Intracluster Medium in Galaxy Groups Probed by the Lyα Forest. *Hu Zhan, Li-Zhi Fang, & David Burstein.* 592, L1 (2003)

Butler, R. Paul. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

Buzasi, Derek L. Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

Cairós, Luz M. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

Caldwell, N. See Stanek, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

Caldwell, Robert R. Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

Calkins, M. L. See Stanek, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

Calvet, Nuria. The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Camilo, F. See McLaughlin, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

Caon, Nicola. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

Carballo, R. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

Cardelli, Jason A. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Cardiel, N. See Klose, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

Carlstrom, J. E. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

Carney, Bruce W. Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

Carr, P. The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

Carriere, J. Low-Mass Neutron Stars and the Equation of State of Dense Matter. *J. Carriere, C. J. Horowitz, & J. Piekarewicz.* 593, 463 (2003)

Carter, Brad D. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

Cartwright, J. K. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See Sievers, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

Casassus, S. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

Castets, A. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

Castro Ceron, J. M. See Klose, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

Castro-Tirado, A. J. See Klose, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

Caux, E. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

Cazaux, S. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli,*

A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier. 593, L51 (2003)

CAZZOLI, G. Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

CECCARELLI, C. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

CEN, RENYUE. The Universe Was Reionized Twice. *Renyue Cen.* 591, 12 (2003)

The Implications of *Wilkinson Microwave Anisotropy Probe* Observations for Population III Star Formation Processes. *Renyue Cen.* 591, L5 (2003)

CERVINO, M. The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

CHAFFEE, F. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

CHALLIS, P. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

CHALLIS, PETER. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

CHAN, D. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

CHANG, PHILIP. Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

CHARLTON, JANE C. The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

CHARNLEY, S.B. The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

CHARNLEY, STEVEN B. Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

CHARPINET, S. A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

CHATTERJEE, PINAKI. Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

CHAVUSHYAN, V. H. The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

CHEN, C. H. The Mid-Infrared–emitting Dust around AB Aurigae. *C. H. Chen & M. Jura.* 591, 267 (2003)

CHEN, JACQUELINE. Lensing Optical Depths for Substructure and Isolated Dark Matter Halos. *Jacqueline Chen, Andrey V. Kravtsov, & Charles R. Keeton.* 592, 24 (2003)

CHEN, M. H. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

CHEN, Y. Q. Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

CHENG, FU-HUA. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

CHENG, K.S. The Radio Afterglow from the Giant Flare of SGR 1900+14: The Same Mechanism as Afterglows from Classic Gamma-Ray Bursts? *X.Y. Wang & K.S. Cheng.* 593, L85 (2003)

CHEVALIER, ROGER. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

CHEVALIER, ROGER A. Cassiopeia A and Its Clumpy Presupernova Wind. *Roger A. Chevalier & Jeffrey Oishi.* 593, L23 (2003)

CHIAR, J. E. A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

CHIBA, MASASHI. Direct Mapping of Massive Compact Objects in Extragalactic Dark Halos. *Kaiki Taro Inoue & Masashi Chiba.* 591, L83 (2003)

CHIEFFI, ALESSANDRO. Evolution, Explosion, and Nucleosynthesis of Core-Collapse Supernovae. *Marco Limongi & Alessandro Chieffi.* 592, 404 (2003)

CHOCK, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

CHODAS, PAUL W. Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

CHOU, Y. X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

CHOUDHURY, M. Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

CHRISTENSEN-DALSGAARD, J. A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

CHRISTIAN, D. J. A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

CHRISTIAN, D.J. The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

CHRISTIANSEN, W. A. Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

CHRISTLEIN, DANIEL. Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

CHRISTOPOULOU, E. B. Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

CHU, YOU-HUA. 10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

CHURAZOV, E. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

CHURCH, S. E. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

CHURCHILL, CHRISTOPHER W. The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

CIMATTI, A. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

CLAY, R. W. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

CLAYTON, GEOFFREY C. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons. *Geoffrey C. Clayton, Karl D. Gordon, F. Salama, L. J. Allamandola, Peter G. Martin, T. P. Snow, D. C. B. Whittet, A. N. Witt, & Michael J. Wolff.* 592, 947 (2003)

CLEMENTS, D. L. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

CLIVER, E. W. Coronal Mass Ejections, the Tail of the Solar Wind Magnetic Field Distribution, and 11 Year Cosmic-Ray Modulation at 1 AU. *E. W. Cliver, A. G. Ling, & I. G. Richardson.* 592, 574 (2003)

COBLE, KIM. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble,*

Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep. 592, 692 (2003)

COHEN, A. S. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey. *A. S. Cohen, H. J. A. Roettgering, N. E. Kassim, W. D. Cotton, R. A. Perley, R. Wilman, P. Best, M. Pierre, M. Birkinshaw, M. Bremer, & A. Zanichelli.* 591, 640 (2003)

COHEN, DAVID H. X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

COHEN, JUDITH G. Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

COHEN, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

COLAVITA, M. Observations of DG Tauri with the Keck Interferometer. *M. Colavita, R. Akeson, P. Wizinowich, M. Shao, S. Acton, J. Beletic, J. Bell, J. Berlin, A. Boden, A. Booth, R. Boutell, F. Chaffee, D. Chan, J. Chock, R. Cohen, S. Crawford, M. Creech-Eakman, G. Eychaner, C. Felizardo, J. Gathright, G. Hardy, H. Henderson, J. Herstein, M. Hess, E. Hovland, M. Hrynevych, R. Johnson, J. Kelley, R. Kendrick, C. Koresko, P. Kurpis, D. Le Mignant, H. Lewis, E. Ligon, W. Lupton, D. McBride, B. Mennesson, R. Millan-Gabet, J. Monnier, J. Moore, C. Nance, C. Neyman, A. Niessner, D. Palmer, L. Reder, A. Rudeen, T. Saloga, A. Sargent, E. Serabyn, R. Smythe, P. Stomski, K. Summers, M. Swain, P. Swanson, R. Thompson, K. Tsubota, A. Tumminello, G. van Belle, G. Vasisht, J. Vause, J. Walker, K. Wallace, & U. Wehmeier.* 592, L83 (2003)

COLE, SHAUN. See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

COLINA, L. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

COLINA, LUIS. INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

COLLMAR, W. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

CONDON, J. J. Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

CONNELLY, ANDREW. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

CONNOLLY, ANDREW J. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

CONSELICE, CHRISTOPHER J. Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

CONTALDI, C. R. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

CORBEL, STEPHANE. X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

CORCORAN, MICHAEL. *Chandra* Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

CÓRDOVA, F. A. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

COSTA, E. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

CÔTÉ, P. The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

CÔTÉ, PATRICK. Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

COTTON, W. D. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

COWAN, JOHN J. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

CRAWFORD, F. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

CRAWFORD, S. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

CREECH-EAKMAN, M. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

CRISTIANI, S. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

CROFT, RUPERT A. C. Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

CROPPER, M. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

CROTTS, ARLIN. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

CSABAI, ISTVÁN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

CUBY, JEAN-GABRIEL. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

CUI, W. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

CUILLANDRE, JEAN-CHARLES. A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

CURDT, W. Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

CURIR, A. Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

CZOSKE, OLIVER. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

DADDI, E. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

See Poli, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

Daddi, Emanuele. See Labbé, Ivo, et al. Large Disklike Galaxies at High Redshift.

Dado, Shlomo. What We Learn from the Afterglow of GRB 021211. *Shlomo Dado, Arnon Dar, & A. De Rújula.* 593, 961 (2003)

Dahle, Haakon. Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

Dai, Z. G. GRB 030226 in a Density-Jump Medium. *Z. G. Dai & X. F. Wu.* 591, L21 (2003)

External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

D'Alessio, Paola. The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

D'Amico, N. See McLaughlin, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

Dammasch, I. Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

Dar, Arnon. What We Learn from the Afterglow of GRB 021211. *Shlomo Dado, Arnon Dar, & A. De Rújula.* 593, 961 (2003)

Das, Tapas K. Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

Davé, Romeel. See Berlind, Andreas A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

Davis, Andrew M. Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

Davis, Sanford S. A Simplified Model for an Evolving Protoplanetary Nebula. *Sanford S. Davis.* 592, 1193 (2003)

De Grandi, Sabrina. SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

de Jager, Ocker C. Constraints on Pulsar Magnetospheric and Wind Parameters for the Compact Nebulae of Vela and PSR B1706−44. *Ramotholo R. Sefako & Ocker C. de Jager.* 593, 1013 (2003)

de la Fuente, Anton. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

Del Sordo, S. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

De Marco, Daniel. On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

Demarque, P. Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

Deng, J. See Kawabata, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

Deng, Jingsong. A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

Deng, Jinsong. See Yoshii, Yuzuru, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

Denissenkov, Pavel A. Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

De Pasquale, M. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts. *M. De Pasquale, L. Piro, R. Perna, E. Costa, M. Feroci, G. Gandolfi, J. in't Zand, L. Nicastro, F. Frontera, L. A. Antonelli, F. Fiore, & G. Stratta.* 592, 1018 (2003)

De Rújula, A. What We Learn from the Afterglow of GRB 021211. *Shlomo Dado, Arnon Dar, & A. De Rújula.* 593, 961 (2003)

Désert, J.-M. See André, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

De Villiers, Jean-Pierre. Global General Relativistic Magnetohydrodynamic Simulations of Accretion Tori. *Jean-Pierre De Villiers & John F. Hawley.* 592, 1060 (2003)

Devine, Kathryn. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

de Vries, Wim. See Reuland, Michiel, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

Dewangan, G. C. *XMM-Newton* Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

Dewdney, P. E. Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Dey, Arjun. See Reuland, Michiel, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

DeZeeuw, Darren L. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

De Zotti, G. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

Diamond, Philip J. VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469. *Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond.* 592, 804 (2003)

Dickenson, Mark. Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

Dickey, John M. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

Di Matteo, Tiziana. Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

Di Stefano, R. Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Djorgovski, S. G. The Redshift and the Host Galaxy of GRB 980613: A Gammay-Ray Burst from a Merger-induced Starburst? *S. G. Djorgovski, J. S. Bloom, & S. R. Kulkarni.* 591, L13 (2003)

Dodd, R. J. See Sumi, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

Dodelson, Scott. See Szalay, Alexander S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

D'Odorico, S. See Poli, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

Dohm-Palmer, R. C. Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Doi, Mamoru. See Yoshii, Yuzuru, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

Domínguez, Gerardo. A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

Domínguez, Inmaculada. Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

Dones, Luke. Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levison, & Luke Dones.* 591, 486 (2003)

Dong, Shawfeng. Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

DONNARUMMA, I. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

DOPITA, MICHAEL. See REULAND, MICHIEL, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

DOPITA, MICHAEL A. The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

DORAN, MICHAEL. Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

DORMAN, BEN. Age and Abundance Discrimination in Old Stellar Populations Using Mid-Ultraviolet Colors. *Ben Dorman, Robert W. O'Connell, & Robert T. Rood.* 591, 878 (2003)

DOSCHEK, G. A. Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

DOTY, J. P. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

DRAGOVAN, MARK. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

DRESSLER, ALAN. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

DUBINSKI, JOHN. Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

DUBUS, GUILLAUME. Cataclysmic Variable Evolution with Circumbinary Disks. *Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus.* 592, 1124 (2003)

DUCHÊNE, G. No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

DUPUIS, J. The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

DYER, K. K. *Chandra* Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

ECHEVARRIA, L. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

EDELSON, R. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

EDELSTEIN, JERRY. High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

EDWARDS, P. G. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

EHRENFREUD, P. The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

EISENSTEIN, D. J. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

EISENSTEIN, DANIEL. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

EISLÖFFEL, JOCHEN. Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

EKE, VINCENT R. Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

ELLIS, RICHARD S. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

On the Assembly History of Early-Type Galaxies in the Hubble Deep Field–North. *Pieter van Dokkum & Richard S. Ellis.* 592, L53 (2003)

ELMEGREEN, BRUCE G. A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

ELMEGREEN, DEBRA MELOY. A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

EMONTS, B. H. C. Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

ENE, ALEXANDRU. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

ENOMOTO, R. Search for TeV Gamma Rays from SN 1987A in 2001. *R. Enomoto, L. T. Ksenofontov, H. Katagiri, K. Tsuchiya, A. Asahara, G. V. Bicknell, R. W. Clay, P. G. Edwards, S. Gunji, S. Hara, T. Hara, H. Hattori, Sei. Hayashi, Shin. Hayashi, C. Itoh, S. Kabuki, F. Kajino, A. Kawachi, T. Kifune, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Naito, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, J. R. Patterson, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, H. Tsunoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 591, L25 (2003)

ENYA, KEIGO. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

ERACLEOUS, MICHAEL. Emission-Line Diagnostics of the Central Engines of Weak-Line Radio Galaxies. *Karen T. Lewis, Michael Eracleous, & Rita M. Sambruna.* 593, 115 (2003)

ERB, DAWN K. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

ERIGUCHI, YOSHIHARU. Linear Stability Analysis of Differentially Rotating Polytropes: New Results for the $M = 2$ F-Mode Dynamical Instability. *Shigeyuki Karino & Yoshiharu Eriguchi.* 592, 1119 (2003)

ERSKINE, DAVID J. High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

ERTAN, UNAL. On the Enhanced X-Ray Emission from SGR 1900+14 after the August 27 Giant Flare. *Unal Ertan & M.A. Alpar.* 593, L93 (2003)

ESQUIVEL, A. Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

ETTORI, S. Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

EVANS, NEAL J., II. Indications of Inflow Motions in Regions Forming Massive Stars. *Neal J. Evans II & Jingwen Wu.* 592, L79 (2003)

EYCHANER, G. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

FABBIANO, G. A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

FABIAN, A. C. The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

FALCONER, D. A. Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

FALGARONE, E. On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

FAN, XIAOHUI. VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

Fang, Li-Zhi. The Multiphase Intracluster Medium in Galaxy Groups Probed by the Lyα Forest. *Hu Zhan, Li-Zhi Fang, & David Burstein.* 592, L1 (2003)

Fanti, R. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

Farmer, A. J. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

Farmer, Alison J. Finding White Dwarfs with Transit Searches. *Alison J. Farmer & Eric Agol.* 592, 1151 (2003)

Faulkner, A. J. See McLaughlin, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

Federman, S. R. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Feigelson, E. D. See Baganoff, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

Feigelson, Eric D. 10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

Feldman, U. Properties of Solar Plasmas near Solar Maximum above Two Quiet Regions at Distances of 1.02–1.34 $R_\odot$. *E. Landi & U. Feldman.* 592, 607 (2003)

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

Feldman, Uri. The Variability of the Solar Coronal Helium Abundance: Polar Coronal Holes Compared to the Quiet Sun. *J. Martin Laming & Uri Feldman.* 591, 1257 (2003)

Felizardo, C. See Colavita, M., et al. Observations of DG Tauri with the Keck Interferometer.

Ferguson, Henry C. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

Ferlet, R. See André, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

Feroci, M. See De Pasquale, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

Ferrario, L. A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

Ferraro, Francesco R. A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

Ferraz-Mello, S. Extrasolar Planets in Mean-Motion Resonance: Apses Alignment and Asymmetric Stationary Solutions. *C. Beaugé, S. Ferraz-Mello, & T. A. Michtchenko.* 593, 1124 (2003)

Feuerstein, W. Michael. High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

Filippenko, Alexei V. See Pooley, David, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

See Michael, Eli, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

Fiocchi, M. See Grandi, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

Fiore, F. See De Pasquale, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

Fischer, Debra A. Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

Flanagan, Eanna E. Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

Fleck, Jean-Julien. Parametric Dwarf Spheroidal Tidal Interaction. *Jean-Julien Fleck & J. R. Kuhn.* 592, 147 (2003)

Fleishman, G. D. Optically Thick Gyrosynchrotron Emission from Anisotropic Electron Distributions: Erratum (ApJ, 584, 1071 [2003]). *G. D. Fleishman & V. F. Melnikov.* 593, 597 (2003) (Orig. paper in 584, 1071 (2003))

Gyrosynchrotron Emission from Anisotropic Electron Distributions: Erratum (ApJ, 587, 823 [2003]). *G. D. Fleishman & V. F. Melnikov.* 593, 598 (2003) (Orig. paper in 587, 823 (2003))

Fleishman, Gregory D. Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

Floor, Stephan N. Eccentricity Evolution in Simulated Galaxy Clusters. *Stephan N. Floor, Adrian L. Melott, Christopher J. Miller, & Greg L. Bryan.* 591, 741 (2003)

Florinski, V. Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

Förster Schreiber, Natascha M. See Labbé, Ivo, et al. Large Disklike Galaxies at High Redshift.

Foltz, Craig B. Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

Fomalont, E. B. The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

Fontaine, G. A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

Fontana, A. See Poli, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

Ford, Eric B. Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

Forman, W. R. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

Foschini, L. Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

Frank, Adam. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

Fransson, Claes. See Wang, Lifan, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

See Michael, Eli, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

Franx, Marijn. See Labbé, Ivo, et al. Large Disklike Galaxies at High Redshift.

Fregeau, J. M. Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

Frenk, Carlos S. See Berlind, Andreas A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

Frieman, Joshua A. See Szalay, Alexander S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

Frisch, Priscilla C. Local Interstellar Matter: The Apex Cloud. *Priscilla C. Frisch.* 593, 868 (2003)

Froebrich, Dirk. Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

Froning, Cynthia S. WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

Frontera, F. See De Pasquale, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

FRYER, C. L. How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

FUJIMOTO, MASAYUKI Y. See AOKI, WAKO, et al. Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

FUKUGITA, MASATAKA. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

FUKUI, Y. High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

FULBRIGHT, JON P. Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

FULLER, GEORGE M. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

GÄNSICKE, BORIS. WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

GAENSICKE, BORIS T. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

GAENSLER, B. M. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

GAENSLER, BRYAN M. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

GALLAGHER, JOHN S. Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

GALLEGO, J. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

GALLEGO, JESÚS. Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

GALLINO, ROBERTO. Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

GALLOWAY, D. K. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

GAMMIE, CHARLES F. Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

GANDOLFI, G. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

GANGA, K. M. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

GANGA, KEN. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

GANGULY, RAJIB. Probing the Size of Low-Redshift Lyα Absorbers. *Jessica L. Rosenberg, Rajib Ganguly, Mark L. Giroux, & John T. Stocke.* 591, 677 (2003)

GARCIA, M. R. Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

GARCIA, MICHAEL R. Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

GARCÍA LORENZO, BEGOÑA. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

GARMIRE, G. P. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

GARMIRE, GORDON P. Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

GARNAVICH, P. M. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

GARNAVICH, PETER. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

GARNAVICH, PETER M. Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

GARNETT, DONALD R. The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

GARY, DALE E. Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

GATHRIGHT, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

GAUDI, B. SCOTT. Resolving the Microlens Mass Degeneracy for Earth-Mass Planets. *Andrew Gould, B. Scott Gaudi, & Cheongho Han.* 591, L53 (2003)

GAWISER, ERIC. C II* Absorption in Damped Lyα Systems. I. Star Formation Rates in a Two-Phased Medium. *Arthur M. Wolfe, Jason X. Prochaska, & Eric Gawiser.* 593, 215 (2003)

C II* Absorption in Damped Lyα Systems. I. A New Window on the Star Formation History of the Universe. *Arthur M. Wolfe, Eric Gawiser, & Jason X. Prochaska.* 593, 235 (2003)

GE, JIAN. Fixed Delay Interferometry for Doppler Extrasolar Planet Detection: Erratum (ApJ, 571, L165 [2002]). *Jian Ge.* 593, L147 (2003) (Orig. paper in 571, L165 (2002))

GELDZAHLER, B. J. The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

GEORGAKILAS, A. A. Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

GEORGE, I. M. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

GEORGE, IAN M. The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

GERHARD, ORTWIN. The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

GEZARI, S. Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

GHEZ, A. M. No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

GHIL, M. Successive Refinements in Long-Term Integrations of Planetary Orbits. *F. Varadi, B. Runnegar, & M. Ghil.* 592, 620 (2003)

GHIZZARDI, SIMONA. SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

GIACCONI, R. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

GIALLONGO, E. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

GIAVALISCO, MAURO. Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

GIL DE PAZ, ARMANDO. Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

GILLI, R. Tracing the Large-Scale Structure in the *Chandra* Deep Field South. *R. Gilli, A. Cimatti, E. Daddi, G. Hasinger, P. Rosati, G. Szokoly, P. Tozzi, J. Bergeron, S. Borgani, R. Giacconi, L. Kewley, V. Mainieri, M. Mignoli, M. Nonino, C. Norman, J. Wang, G. Zamorani, W. Zheng, & A. Zirm.* 592, 721 (2003)

GIMÉNEZ DE CASTRO, CARLOS G. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

GIROUX, MARK L. Probing the Size of Low-Redshift Lyα Absorbers. *Jessica L. Rosenberg, Rajib Ganguly, Mark L. Giroux, & John T. Stocke.* 591, 677 (2003)

GIZIS, JOHN E. See BURGASSER, ADAM J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

GLADDERS, MICHAEL D. The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

GLAZEBROOK, KARL. Constraints on a Universal Initial Mass Function from Ultraviolet to Near-Infrared Galaxy Luminosity Densities. *Ivan K. Baldry & Karl Glazebrook.* 593, 258 (2003)

GODON, PATRICK. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

GOLDBERG, DORIT. On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

GOLDEN, A. Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

GOMBOSI, TAMAS I. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

GONZALEZ, MARJORIE. *Chandra* Detection of the High Magnetic Field Radio Pulsar J1119−6127 in the Supernova Remnant G292.2−0.5. *Marjorie Gonzalez & Samar Safi-Harb.* 591, L143 (2003)

GONZÁLEZ DELGADO, ROSA M. Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

GONZALEZ SERRANO, J. I. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

GOODMAN, JEREMY. Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

GORCZYCA, T. W. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

GORDON, KARL D. See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

GORLOVA, N. I. Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

GOROSABEL, J. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

GOSS, W. M. Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

GOSS, W.M. The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

GOTTHELF, E. V. X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

An X-Ray Image of the Composite Supernova Remnant G16.7+0.1. *David J. Helfand, Marcel A. Agueros, & E. V. Gotthelf.* 592, 941 (2003)

GOULD, ANDREW. Resolving the Microlens Mass Degeneracy for Earth-Mass Planets. *Andrew Gould, B. Scott Gaudi, & Cheongho Han.* 591, L53 (2003)

Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

Stellar Contribution to the Galactic Bulge Microlensing Optical Depth. *Cheongho Han & Andrew Gould.* 592, 172 (2003)

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

An Upper Limit on the Granularity of the Local Stellar Halo. *Andrew Gould.* 592, L63 (2003)

GRAFF, DAVID S. Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

GRANDI, P. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature. *P. Grandi, M. Fiocchi, C. G. Perola, C. M. Urry, L. Maraschi, E. Massaro, G. Matt, A. Preite-Martinez, H. Steinle, & W. Collmar.* 593, 160 (2003)

GRANOT, JONATHAN. The Evolution of a Structured Relativistic Jet and Gamma-Ray Burst Afterglow Light Curves. *Pawan Kumar & Jonathan Granot.* 591, 1075 (2003)

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

Radio Imaging of Gamma-Ray Burst Jets in Nearby Supernovae. *Jonathan Granot & Abraham Loeb.* 593, L81 (2003)

GRAV, TOMMY. The Short Rotation Period of Nereid. *Tommy Grav, Matthew J. Holman, & J. J. Kavelaars.* 591, L71 (2003)

GREBEL, EVA K. Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

GREEN, PAUL J. Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar Pair UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

GREINER, J. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

GRENON, MICHEL. Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

GRIFFITHS, R. E. *XMM-Newton* Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

GRINDLAY, J. E. X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

GRUENWALD, RUTH. Ultraviolet Continuum, Physical Conditions and Filling Factor in Active Galactic Nuclei: Erratum (ApJ, 587, 562 [2003]). *Lucimara P. Martins, Sueli M. Viegas, & Ruth Gruenwald.* 592, 1264 (2003) (Orig. paper in 587, 562 (2003))

GRUPE, D. Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

GU, M. F. Recombination X-Ray Line Formation of Iron L-Shell Ions in Low Temperature Plasmas. *M. F. Gu.* 593, 1249 (2003)

GUAINAZZI, M. Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse,*

M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado. 593, 127 (2003)

GUENTHER, D. B. Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

GÜRKAN, M. A. Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

GUETTA, DAFNE. On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

GULL, T. Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

GUNJI, S. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

GUNN, JAMES E. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

GUZIK, JOYCE A. A Theoretical γ Doradus Instability Strip. *Phillip B. Warner, Anthony B. Kaye, & Joyce A. Guzik.* 593, 1049 (2003)

HAARDT, FRANCESCO. The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

HABBAL, FERAS. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

HABBAL, SHADIA RIFAI. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

HABERL, FRANK. The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

HALL, PATRICK B. The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

HALLMAN, ERIC. Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

HALPERN, J. P. Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

HALVERSON, N. W. See MASON, B. S., et al. The Anisotropy of the Microwave Background to l = 3500: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to l = 3500: Mosaic Observations with the Cosmic Background Imager.

HAMILTON, CATRINA M. Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

HAN, CHEONGHO. Resolving the Microlens Mass Degeneracy for Earth-Mass Planets. *Andrew Gould, B. Scott Gaudi, & Cheongho Han.* 591, L53 (2003)

Stellar Contribution to the Galactic Bulge Microlensing Optical Depth. *Cheongho Han & Andrew Gould.* 592, 172 (2003)

HANSEN, BRAD M. S. The Need for a Second Black Hole at the Galactic Center. *Brad M. S. Hansen & Miloš Milosavljević.* 593, L77 (2003)

HAO, LEI. Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

HARA, S. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

HARA, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

HARDCASTLE, M. J. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

HARDING, ALICE K. Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

HARDING, P. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

HARDY, G. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

HARTMANN, D. H. How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

HARTMANN, LEE. The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

HASINGER, G. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

HASSEL, G. E. A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

HATHAWAY, D. H. Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

HATHI, N. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

HATTORI, H. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

HAUSCHILDT, P. H. See KASEN, DANIEL, et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

HAWLEY, JOHN F. Global General Relativistic Magnetohydrodynamic Simulations of Accretion Tori. *Jean-Pierre De Villiers & John F. Hawley.* 592, 1060 (2003)

HAYASHI, SEI. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

HAYASHI, SHIN. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

HAYASHIDA, K. Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

HEARN, N. C. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

HEARNSHAW, J. B. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

HEBB, LESLIE. ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

HÉBRARD, G. See ANDRÉ, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

HECKMAN, T. A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

HEDDEN, ABIGAIL. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

HEGER, A. How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

HEGWER, STEVE. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

HEIKE, K. Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

HELFAND, DAVID J. An X-Ray Image of the Composite Supernova Remnant G16.7+0.1. *David J. Helfand, Marcel A. Agüeros, & E. V. Gotthelf.* 592, 941 (2003)

HELMI, AMINA. On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

HELOU, G. Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

HENDEN, A. A. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

HENDERSON, H. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

HENDRICK, S. P. Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

HENNESSY, GREG. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

HENNING, T. Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

HENNING, TH. First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

HERBST, ERIC. Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

HERBST, WILLIAM. Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

HERCZEG, GREGORY J. The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

HERNQUIST, LARS. Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)

HERSTEIN, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

HERWIG, FALK. The *s*-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

HESS, M. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

HEYER, MARK H. High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

HEYL, JEREMY S. The Synoptic *Swift* Synergy—Catching Gamma-Ray Bursts Before They Fly. *Jeremy S. Heyl.* 592, 401 (2003)

Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)

HIGDON, J. C. Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

HIGDON, J. L. *Infrared Space Observatory* Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

HIGDON, S. J. U. *Infrared Space Observatory* Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

HIGHBERGER, J. L. The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

HILL, F. A Comparison of Solar *p*-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

HILL, VANESSA. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

HILLENBRAND, LYNNE. Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

HINDERKS, J. R. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

HINES, DEAN C. Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

HIRANO, T. Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

HIROTANI, KOUICHI. Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

HO, C. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

HOBBS, G. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

HÖFLICH, P. Near-Infrared Spectra of Type Ia Supernovae. *G. H. Marion, P. Höflich, W. D. Vacca, & J. C. Wheeler.* 591, 316 (2003)

See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

HÖFLICH, PETER. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

See KASEN, DANIEL, et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

HÖFLICH, PETER A. Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

HOEKSTRA, HENK. The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

HOGERHEIJDE, MICHIEL R. Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

HOGG, DAVID W. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

HOLDER, GILBERT P. Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

HOLLAND, S. T. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

HOLMAN, MATTHEW J. The Short Rotation Period of Nereid. *Tommy Grav, Matthew J. Holman, & J. J. Kavelaars.* 591, L71 (2003)

HOLT, J. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

HOLZAPFEL, W. L. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.
See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.
See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

HOMER, LEE. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

HONDA, M. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

HONMA, M. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

HOROWITZ, C. J. Low-Mass Neutron Stars and the Equation of State of Dense Matter. *J. Carriere, C. J. Horowitz, & J. Piekarewicz.* 593, 463 (2003)

HOUCK, JOHN C. *RXTE*, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

HOUGH, J. H. Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

HOVLAND, E. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

HOWE, R. A Comparison of Solar *p*-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

HOWELL, D. A. See KASEN, DANIEL, et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

HOWELL, STEVE B. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

HOWK, J. C. Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)
See ANDRÉ, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

HOWK, J. CHRISTOPHER. On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

HRYNEVYCH, M. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

HUANG, GUANG LI. The Effect of the Compton Backscattering Component on the Photon Spectra of Three *Yohkoh*/Hard X-Ray Telescope Flares. *Jian Zhang & Guang Li Huang.* 592, L49 (2003)

HUANG, HUI-CHUN. Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

HUBENY, IVAN. Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

HUGHES, J. P. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

HUGHES, JOHN P. An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)
Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

HUGHES, PHILIP A. The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

HUI, LAM. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

HUNT, MATTHEW P. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

HUT, PIET. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

HUTSMÉKERS, DAMIEN. VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

IGUMENSHCHEV, IGOR V. Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

ILLINGWORTH, GARTH. Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

INOUE, KAIKI TARO. Direct Mapping of Massive Compact Objects in Extragalactic Dark Halos. *Kaiki Taro Inoue & Masashi Chiba.* 591, L83 (2003)

IN'T ZAND, J. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

IOKA, KUNIHITO. Delayed Flashes from Counterjets of Gamma-Ray Bursts. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 591, 283 (2003)
Cosmological X-Ray Flashes in the Off-Axis Jet Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 593, 941 (2003)

ISENBERG, PHILIP A. Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons. *Philip A. Isenberg, Charles W. Smith, & William H. Matthaeus.* 592, 564 (2003)

ISHIMARU, YUHRI. The *r*-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

ISOBE, HIROAKI. Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

ITOH, C. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

ITOH, NAOKI. The *r*-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

IVANOVA, N. The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

IVANS, INESE I. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.
Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

IVEZIC, ZELJKO. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

IWAMOTO, NOBUYUKI. See AOKI, WAKO, et al. Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

IYE, M. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

IYE, MASANORI. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

JAIN, A. K. Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

JAIN, BHUVNESH. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

JAMES, C. RENÉE. Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée*

James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler. 592, 906 (2003)

JANG-CONDELL, HANNAH. Radiative Transfer on Perturbations in Protoplanetary Disks. *Hannah Jang-Condell & Dimitar D. Sasselov.* 593, 1116 (2003)

JANSEN, R. A. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

JARRETT, T. H. Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

JARRETT, TOM H. Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

JATENCO-PEREIRA, V. Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

JAVAKHISHVILI, G. On a Mechanism for Enhancing Magnetic Activity in Tidally Interacting Binaries: Erratum (ApJ, 579, 810 [2002]). *T. Zaqarashvili, G. Javakhishvili, & G. Belvedere.* 591, 498 (2003) (Orig. paper in 579, 810 (2002))

JAYAWARDHANA, RAY. Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

JEFFERY, D. J. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

JEFFERYS, W. H. A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

JENKINS, ADRIAN. See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

JEVREMOVIC, D. The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

JI, HAISHEN. Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

JI, JIANGHUI. The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

JIANG, YUNCHUN. Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

JIMENEZ, R. Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

JIMENEZ, RAUL. Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

JIMÉNEZ-BAILÓN, E. Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

JING, JU. Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

JOHANSSON, S. Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

JOHNS-KRULL, CHRISTOPHER M. Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

JOHNSON, JUDD. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

JOHNSON, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

JOHNSTON, DAVID. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

JOHNSTONE, DOUG. Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

JOINER, DAVID A. Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

JOKIPII, J. R. Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

JONES, C. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

JONES, HUGH R. A. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

JONES, STEVEN M. A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

JONES, T. W. Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

JORDAN, C. The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

JOSHI, K. J. Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

JOY, M. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

JUDGE, PHILIP G. An Estimate of the Sun's *ROSAT*-PSPC X-Ray Luminosities Using *SNOE*-SXP Measurements. *Philip G. Judge, Stanley C. Solomon, & Thomas R. Ayres.* 593, 534 (2003)

JURA, M. The Mid-Infrared–emitting Dust around AB Aurigae. *C. H. Chen & M. Jura.* 591, 267 (2003)

JUVELA, M. Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

KAARET, PHILIP. X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

KABUKI, S. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KABURAKI, OSAMU. Viscosity-driven Winds from Magnetized Accretion Disks. *Daizo Maruta & Osamu Kaburaki.* 593, 85 (2003)

KÄPPELER, FRANZ. Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

KAISER, NICK. Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

KAJINO, F. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KAJINO, TOSHITAKA. See AOKI, WAKO, et al. Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

KAKIMOTO, F. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

KALEMCI, EMRAH. X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

KALLMAN, T. R. Iron K Lines from Gamma-Ray Bursts. *T. R. Kallman, P. Mészáros, & M. J. Rees.* 593, 946 (2003)

KALLMAN, TIMOTHY. *Chandra* Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

KALOGERA, V. The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

KANG, HYESUNG. Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

KAN-YA, Y. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

KARGALTSEV, O. The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

KARINO, SHIGEYUKI. Linear Stability Analysis of Differentially Rotating Polytropes: New Results for the $M = 2$ F-Mode Dynamical Instability. *Shigeyuki Karino & Yoshiharu Eriguchi.* 592, 1119 (2003)

KARLICKY, M. A Model of Zebra Emission in Solar Type IV Radio Bursts. *J. LaBelle, R. A. Treumann, P. H. Yoon, & M. Karlicky.* 593, 1195 (2003)

KARPEN, J. T. Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

KASEN, D. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

KASEN, DANIEL. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta. *Daniel Kasen, Peter Nugent, Lifan Wang, D. A. Howell, J. Craig Wheeler, Peter Höflich, Dietrich Baade, E. Baron, & P. H. Hauschildt.* 593, 788 (2003)

KASHIKAWA, N. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

KASPI, S. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

KASPI, V. M. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

KASPI, VICTORIA M. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

KASSIM, N. E. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

KASTNER, JOEL H. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtílek, & Jingqiang Li.* 591, L37 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

KATAGIRI, H. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KATHIRAVAN, C. Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

KATO, TOMOHIRO. The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

KATZ, NEAL. See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

KAUFMANN, PIERRE. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

KAVELAARS, J. J. The Short Rotation Period of Nereid. *Tommy Grav, Matthew J. Holman, & J. J. Kavelaars.* 591, L71 (2003)

KAWABATA, K. S. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329. *K. S. Kawabata, J. Deng, L. Wang, P. Mazzali, K. Nomoto, K. Maeda, N. Tominaga, H. Umeda, M. Iye, G. Kosugi, Y. Ohyama, T. Sasaki, P. Höflich, J. C. Wheeler, D. J. Jeffery, K. Aoki, N. Kashikawa, T. Takata, N. Kawai, T. Sakamoto, Y. Urata, A. Yoshida, T. Tamagawa, K. Torii, W. Aoki, N. Kobayashi, Y. Komiyama, Y. Mizumoto, J. Noumaru, R. Ogasawara, K. Sekiguchi, Y. Shirasaki, T. Totani, J. Watanabe, & T. Yamada.* 593, L19 (2003)

KAWABATA, KOJI S. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

KAWACHI, A. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KAWAGUCHI, TOSHIHIRO. Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

KAWAI, N. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

KAWKA, A. A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

KAYE, ANTHONY B. A Theoretical γ Doradus Instability Strip. *Phillip B. Warner, Anthony B. Kaye, & Joyce A. Guzik.* 593, 1049 (2003)

KEETON, CHARLES R. Lensing Optical Depths for Substructure and Isolated Dark Matter Halos. *Jacqueline Chen, Andrey V. Kravtsov, & Charles R. Keeton.* 592, 24 (2003)

KELLEY, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

KELLY, BRANDON C. The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

KEMPNER, JOSHUA C. *Chandra* Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

KENDRICK, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

KENNEA, J. A. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

KENNICUTT, ROBERT C., JR. The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

KENT, STEPHEN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

KEOHANE, J. W. *Chandra* Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

KERSCHER, MARTIN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

KEWLEY, L. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

KHOKHLOV, ALEXEI. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

KIFUNE, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KILMARTIN, P. M. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

KIMBLE, RANDY A. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

KING, A. R. Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

KINOSHITA, HIROSHI. The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

KIRK, J. G. Dissipation in Poynting-Flux–dominated Flows: The σ-Problem of the Crab Pulsar Wind. *J. G. Kirk & O. Skjaeraasen.* 591, 366 (2003)

KIRKPATRICK, J. DAVY. See BURGASSER, ADAM J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

KIRSHNER, ROBERT. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

KISIEL, ZBIGNIEW. Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

KISS, LÁSZLÓ L. Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

KJELDSEN, HANS. Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

KLEIN, R. First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

KLESSEN, RALF S. Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

KLIMCHUK, J. A. Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

KLOSE, S. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts. *S. Klose, A. A. Henden, J. Greiner, D. H. Hartmann, N. Cardiel, A. J. Castro-Tirado, J. M. Castro Ceron, J. Gallego, J. Gorosabel, B. Stecklum, N. Tanvir, U. Thiele, F. J. Vrba, & A. Zeh.* 592, 1025 (2003)

KNAPP, GILLIAN R. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

KNAUTH, DAVID C. On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

KNEIB, JEAN-PAUL. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

KNIAZEV, ALEXEI Y. Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

KNIGGE, CHRISTIAN. WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

KO, Y.-K. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

KOBAYASHI, N. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

KOBAYASHI, YUKIYASU. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

KOČER, MICHAL. Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

KODAMA, T. The Transformation of Galaxies within the Large-Scale Structure around a $z = 0.41$ Cluster: Erratum (ApJ, 562, L9 [2001]). *T. Kodama, Ian Smail, F. Nakata, S. Okamura, & R. G. Bower.* 591, L169 (2003) (Orig. paper in 562, L9 (2001))

KODITUWAKKU, C. N. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

KOMIYAMA, Y. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

KOMM, R. A Comparison of Solar *p*-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

KOMOSSA, S. Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

KONACKI, MACIEJ. Masses and Orbital Inclinations of Planets in the PSR B1257+12 System. *Maciej Konacki & Alex Wolszczan.* 591, L147 (2003)

KONG, A. K. H. Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

KORESKO, C. A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

KORISTA, K. T. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

KOSOVICHEV, ALEXANDER G. Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot beneath the Solar Surface. *Junwei Zhao & Alexander G. Kosovichev.* 591, 446 (2003)

KOSUGI, G. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

KOUCHI, AKIRA. Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

KOUTCHMY, S. Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

KOVAC, J. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

KOVAC, JOHN. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

KRAFT, R. P. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

KRAMER, M. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

KRAMER, ROBAN H. X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

KRATZ, K.-L. Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

KRATZ, KARL-LUDWIG. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

KRAVTSOV, ANDREY V. Lensing Optical Depths for Substructure and Isolated Dark Matter Halos. *Jacqueline Chen, Andrey V. Kravtsov, & Charles R. Keeton.* 592, 24 (2003)

KRISCIUNAS, K. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

KROLIK, J. H. Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

KSENOFONTOV, L. T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KUAN, YI-JEHNG. Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

KUBO, H. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KUHN, J. R. Parametric Dwarf Spheroidal Tidal Interaction. *Jean-Julien Fleck & J. R. Kuhn.* 592, 147 (2003)

KUIJKEN, KONRAD. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

KULKARNI, S. R. The Redshift and the Host Galaxy of GRB 980613: A Gammay-Ray Burst from a Merger-induced Starburst? *S. G. Djorgovski, J. S. Bloom, & S. R. Kulkarni.* 591, L13 (2003)

KUMAR, P. The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

KUMAR, PAWAN. The Evolution of a Structured Relativistic Jet and Gamma-Ray Burst Afterglow Light Curves. *Pawan Kumar & Jonathan Granot.* 591, 1075 (2003)

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

KUNDU, A. Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

KUNDU, M. R. Coronal Structure of a Flaring Region and Associated Coronal Mass Ejection. *P. K. Manoharan & M. R. Kundu.* 592, 597 (2003)

KUNSZT, PETER A. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

KURPIS, P. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

KUSHIDA, J. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

KUSUNOSE, MASAAKI. The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

LABBÉ, IVO. Large Disklike Galaxies at High Redshift. *Ivo Labbé, Gregory Rudnick, Marijn Franx, Emanuele Daddi, Pieter G. van Dokkum, Natascha M. Förster Schreiber, Konrad Kuijken, Alan Moorwood, Hans-Walter Rix, Huub Röttgering, Ignacio Trujillo, Arjen van der Wel, Paul van der Werf, & Lottie van Starkenburg.* 591, L95 (2003)

LABELLE, J. A Model of Zebra Emission in Solar Type IV Radio Bursts. *J. LaBelle, R. A. Treumann, P. H. Yoon, & M. Karlicky.* 593, 1195 (2003)

LACEY, CEDRIC G. See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

LACOUR, S. See ANDRÉ, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

LACY, MARK. See REULAND, MICHIEL, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

LADA, C. J. A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

LADA, E. A. A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

LAI, DONG. Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

LAMB, DON Q. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

LAMB, S. A. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

LAMBERT, DAVID L. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

LAMING, J. MARTIN. The Variability of the Solar Coronal Helium Abundance: Polar Coronal Holes Compared to the Quiet Sun. *J. Martin Laming & Uri Feldman.* 591, 1257 (2003)

LANDI, E. Properties of Solar Plasmas near Solar Maximum above Two Quiet Regions at Distances of 1.02–1.34 $R_\odot$. *E. Landi & U. Feldman.* 592, 607 (2003)

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

LANGER, N. How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

LANGER, NORBERT. The *s*-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

LAPINOV, A. V. Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

LAROSA, T. N. Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

LARSEN, SOREN S. On the Size Difference between Red and Blue Globular Clusters. *Soren S. Larsen & Jean P. Brodie.* 593, 340 (2003)

LATHAM, DAVID W. On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

LAUGHLIN, GREGORY. On the Radii of Extrsolar Giant Planets. *Peter Bodenheimer, Gregory Laughlin, & Douglas N. C. Lin.* 592, 555 (2003)

LAUNHARDT, R. Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

LAUROESCH, J. T. Variable Na I Absorption toward ρ Leonis: Biased Neutral Formation in the Diffuse Interstellar Medium? *J. T. Lauroesch & David M. Meyer.* 591, L123 (2003)

LAUROESCH, JAMES T. On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

LAWLER, JAMES E. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

LAWRENCE, A. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

LAWRENCE, STEPHEN. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

LAZARIAN, A. Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

LAZENDIC, J. S. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

LECAVELIER DES ÉTANGS, A. See ANDRÉ, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

LEE, BRIAN C. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

LEE, J. C. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

LEE, MAN HOI. Secular Evolution of Hierarchical Planetary Systems. *Man Hoi Lee & S. J. Peale.* 592, 1201 (2003)

LEE, YOUNG-WOOK. ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

LEERUNGNAVARAT, K. Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

LEHNERT, MATTHEW D. Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

LEIGHLY, K. M. Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

LEITCH, E. M. See MASON, B. S., et al. The Anisotropy of the Microwave Background to l = 3500: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to l = 3500: Mosaic Observations with the Cosmic Background Imager.

LEITNER, SAMUEL N. A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

LE MIGNANT, D. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

LÉPINE, SÉBASTIEN. LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

LEUENHAGEN, U. [C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

LEUNG, CHUN MING. Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

LEVATO, HUGO. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

LEVENSON, N. A. A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

LEVISION, HAROLD F. Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levision, & Luke Dones.* 591, 486 (2003)

LEVRIER, F. On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

LEWIN, WALTER H. G. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

LEWIS, H. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

LEWIS, KAREN T. Emission-Line Diagnostics of the Central Engines of Weak-Line Radio Galaxies. *Karen T. Lewis, Michael Eracleous, & Rita M. Sambruna.* 593, 115 (2003)

LI, GUANGYU. The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

LI, JINGQIANG. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

LI, L. H. Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

LI, LI-XIN. Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

LI, WEIDONG. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

LI, YUEXING. The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

LIEBERT, J. Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

LIEBERT, JAMES. See BURGASSER, ADAM J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

LIEWER, PAULETT C. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

LIGON, E. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

LILJE, PER B. Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

LIMONGI, MARCO. Evolution, Explosion, and Nucleosynthesis of Core-Collapse Supernovae. *Marco Limongi & Alessandro Chieffi.* 592, 404 (2003)

LIN, D. N. C. Surface Outflow in Optically Thick Dust Disks by Radiation Pressure. *Taku Takeuchi & D. N. C. Lin.* 593, 524 (2003)

LIN, DOUGLAS N. C. On the Radii of Extrsolar Giant Planets. *Peter Bodenheimer, Gregory Laughlin, & Douglas N. C. Lin.* 592, 555 (2003)

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

LIN, YEN-TING. Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

LING, A. G. Coronal Mass Ejections, the Tail of the Solar Wind Magnetic Field Distribution, and 11 Year Cosmic-Ray Modulation at 1 AU. *E. W. Cliver, A. G. Ling, & I. G. Richardson.* 592, 574 (2003)

LINGENFELTER, R. E. Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

LINSKY, JEFFREY L. A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

LIU, LIN. The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

LIU, YU. Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

LIVIO, MARIO. The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

Star Formation at the Twilight of the Dark Ages: Which Stars Reionized the Universe? *Rachel S. Somerville & Mario Livio.* 593, 611 (2003)

The Epoch of Reionization in Models with Reduced Small-Scale Power. *Rachel S. Somerville, James S. Bullock, & Mario Livio.* 593, 616 (2003)

LLOYD, DON A. Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)

LO, K. Y. Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

LOCKMAN, FELIX J. High-Velocity Cloud Complex H: A Satellite of the Milky Way in a Retrograde Orbit? *Felix J. Lockman.* 591, L33 (2003)

LODDERS, KATHARINA. Solar System Abundances and Condensation Temperatures of the Elements. *Katharina Lodders.* 591, 1220 (2003)

LOEB, ABRAHAM. Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Radio Imaging of Gamma-Ray Burst Jets in Nearby Supernovae. *Jonathan Granot & Abraham Loeb.* 593, L81 (2003)

LÖHMER, O. The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

LONG, KNOX S. WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

LONGCOPE, DANA W. Helicity Evolution in Emerging Active Regions. *Alexei A. Pevtsov, Vasily M. Maleev, & Dana W. Longcope.* 593, 1217 (2003)

LONSDALE, CAROL J. VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469. *Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond.* 592, 804 (2003)

LONSDALE, COLIN J. VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469.

Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond. 592, 804 (2003)

LOONEY, LESLIE W. Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

LORIMER, D. R. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

LOVEDAY, JON. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

LOVELACE, R. V. E. Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

LU, T. External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

LUGARO, MARIA. Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

The *s*-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

LUHMAN, K. L. A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

LUHMANN, J. G. Characteristics of Scatter-free Behavior of Heliospheric Pickup Ions. *J. G. Luhmann.* 592, 1241 (2003)

LUNDQVIST, PETER. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

LUPTON, ROBERT H. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

LUPTON, W. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

LURIDIANA, V. The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

LYNE, A. G. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

MACDONALD, J. Onset of Mass Loss in Red Giants: Association with an Evolutionary Event. *D. J. Mullan & J. MacDonald.* 591, 1203 (2003)

MACDOWALL, R. J. Polarization and Fragmentation of Solar Type II Radio Bursts. *G. Thejappa, P. Zlobec, & R. J. MacDowall.* 592, 1234 (2003)

MACK, K.-H. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

MAC LOW, MORDECAI-MARK. The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

MACNEICE, P. J. Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

MADAU, PIERO. The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

MADDOX, STEVE J. Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

MADOKORO, HIDEKI. Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

MAEDA, K. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

MAEDA, KEIICHI. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

MAEDA, Y. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

MAGNANI, LORIS. Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

MAHESWARAN, M. Magnetic Roster Winds and Keplerian Disks of Hot Stars. *M. Maheswaran.* 592, 1156 (2003)

MAINIERI, V. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

MAKHMUTOV, VLADIMIR S. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

MAKINO, JUNICHIRO. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

MALEEV, VASILY M. Helicity Evolution in Emerging Active Regions. *Alexei A. Pevtsov, Vasily M. Maleev, & Dana W. Longcope.* 593, 1217 (2003)

MANCHESTER, R. N. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

MANCHESTER, WARD. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

MANN, G. Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

MANNING, CURTIS V. Modeling the Void H I Column Density Spectrum with Subgalactic Halos. *Curtis V. Manning.* 591, 79 (2003)

MANOHARAN, P. K. Coronal Structure of a Flaring Region and Associated Coronal Mass Ejection. *P. K. Manoharan & M. R. Kundu.* 592, 597 (2003)

MANRIQUE, ALBERTO. On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

MARASCHI, L. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

MARASCHI, LAURA. The Jet-Disk Connection and Blazar Unification. *Laura Maraschi & Fabrizio Tavecchio.* 593, 667 (2003)

MARCAIDE, J. M. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

MARCY, GEOFFREY W. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

MARGON, BRUCE. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

MARION, G. H. Near-Infrared Spectra of Type Ia Supernovae. *G. H. Marion, P. Höflich, W. D. Vacca, & J. C. Wheeler.* 591, 316 (2003)

MARISKA, JOHN T. Evolving Active Region Loops Observed with the *Transition Region and Coronal Explorer*. II. Time-Dependent Hydrodynamic Simulations. *Harry P. Warren, Amy R. Winebarger, & John T. Mariska.* 593, 1174 (2003)

MARKEVITCH, MAXIM. *Chandra* Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

MARKOWITZ, A. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies. *A. Markowitz, R. Edelson, S. Vaughan, P. Uttley, I. M. George, R. E. Griffiths, S. Kaspi, A. Lawrence, I. McHardy, K. Nandra, K. Pounds, J. Reeves, N. Schurch, & R. Warwick.* 593, 96 (2003)

MARTIN, EDUARDO L. Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martin & M. R. Zapatero Osorio.* 593, L113 (2003)

MARTIN, PETER G. See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

MARTINI, P. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

MARTINIC, N. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

MARTINS, LUCIMARA P. Ultraviolet Continuum. Physical Conditions and Filling Factor in Active Galactic Nuclei: Erratum (ApJ, 587, 562 [2003]). *Lucimara P. Martins, Sueli M. Viegas, & Ruth Gruenwald.* 592, 1264 (2003) (Orig. paper in 587, 562 (2003))

MARUTA, DAIZO. Viscosity-driven Winds from Magnetized Accretion Disks. *Daizo Maruta & Osamu Kaburaki.* 593, 85 (2003)

MASETTI, N. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

MAS-HESSE, J. M. Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

MASON, B. S. The Anisotropy of the Microwave Background to l = 3500: Deep Field Observatons with the Cosmic Background Imager. *B. S. Mason, T. J. Pearson, A. C. S. Readhead, M. C. Shepherd, J. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 540 (2003)

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to l = 3500: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

MASSARO, E. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

MASUDA, K. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

MASUDA, S. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

MATHESON, T. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

MATHEWS, GRANT J. See AOKI, WAKO, et al. Europium Isotope Ratios in s-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

MATHIOUDAKIS, M. The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

MATSUBARA, TAKAHIKO. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

Phase Correlations in Non-Gaussian Fields. *Takahiko Matsubara.* 591, L79 (2003)

MATSUBARA, Y. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

MATSUYAMA, ISAMU. Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

MATT, G. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

MATTHAEUS, WILLIAM H. Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons. *Philip A. Isenberg, Charles W. Smith, & William H. Matthaeus.* 592, 564 (2003)

MATTHEWS, H. E. Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

MATTHEWS, K. A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

MATTHEWS, L. D. High-Latitude H I in the Low Surface Brightness Galaxy UGC 7321. *L. D. Matthews & Kenneth Wood.* 593, 721 (2003)

MATTILA, K. Has the Optical Extragalactic Background Light Been Detected? *K. Mattila.* 591, 119 (2003)

MAUSKOPF, P. D. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

MAY, J. See MASON, B. S., et al. The Anisotropy of the Microwave Background to l = 3500: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to l = 3500: Mosaic Observations with the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

MAZEH, TSEVI. On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

MAZZALI, P. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

MAZZALI, PAOLO A. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

MAZZEI, P. Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

MBONYE, MANASSE. Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

MCBRIDE, D. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

MCCABE, C. No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

MCCARTHY, CHRIS. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

MCCARTHY, IAN G. Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

MCCARTHY, M. C. The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

MCCARTHY, MEREDITH N. Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

MCCLINTOCK, J. E. Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

MCCLINTOCK, JEFFREY E. Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

McCray, Richard. See Michael, Eli, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

McDowell, J. C. *Chandra* Observations of Extended X-Ray Emission in Arp 220. *J. C. McDowell, D. L. Clements, S. A. Lamb, S. Shaked, N. C. Hearn, L. Colina, C. Mundell, K. Borne, A. C. Baker, & S. Arribas.* 591, 154 (2003)

McGovern, Mark R. See Burgasser, Adam J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

McGowan, K. E. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

McHardy, I. See Markowitz, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

McKernan, Barry. The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

McLaughlin, Dean E. Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

McLaughlin, M. A. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics. *M. A. McLaughlin, I. H. Stairs, V. M. Kaspi, D. R. Lorimer, M. Kramer, A. G. Lyne, R. N. Manchester, F. Camilo, G. Hobbs, A. Possenti, N. D'Amico, & A. J. Faulkner.* 591, L135 (2003)

McLean, Ian S. See Burgasser, Adam J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

McMillan, Stephen L. W. The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

McMillan, Steve. See Pooley, David, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

McWilliam, Andrew. Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Galaxy and the Galactic Bulge: Erratum (ApJ, 592, L21 [2003]). *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 593, L145 (2003) (Orig. paper in 592, L21 (2003))

Meier, David S. Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

Meijer, Gerard. Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Meiksin, Avery. See Szalay, Alexander S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

Mellier, Yannick. Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

Mellon, Richard R. The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

Melnikov, V. F. Optically Thick Gyrosynchrotron Emission from Anisotropic Electron Distributions: Erratum (ApJ, 584, 1071 [2003]). *G. D. Fleishman & V. F. Melnikov.* 593, 597 (2003) (Orig. paper in 584, 1071 (2003))

Gyrosynchrotron Emission from Anisotropic Electron Distributions: Erratum (ApJ, 587, 823 [2003]). *G. D. Fleishman & V. F. Melnikov.* 593, 598 (2003) (Orig. paper in 587, 823 (2003))

Melott, Adrian L. Eccentricity Evolution in Simulated Galaxy Clusters. *Stephan N. Floor, Adrian L. Melott, Christopher J. Miller, & Greg L. Bryan.* 591, 741 (2003)

Menci, N. See Poli, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

Mennesson, B. See Colavita, M., et al. Observations of DG Tauri with the Keck Interferometer.

Menten, Karl M. A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

Mészáros, P. Gamma-Ray Bursts as X-Ray Depth Gauges of the Universe. *P. Mészáros & M. J. Rees.* 591, L91 (2003)

Iron K Lines from Gamma-Ray Bursts. *T. R. Kallman, P. Mészáros, & M. J. Rees.* 593, 946 (2003)

Meyer, David M. Variable Na I Absorption toward ρ Leonis: Biased Neutral Formation in the Diffuse Interstellar Medium? *J. T. Lauroesch & David M. Meyer.* 591, L123 (2003)

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

Meyer, M. R. Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

Meza, Andrés. On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

Michael, Eli. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock. *Eli Michael, Richard McCray, Roger Chevalier, Alexei V. Filippenko, Peter Lundqvist, Peter Challis, Ben Sugerman, Stephen Lawrence, C. S. J. Pun, Peter Garnavich, Robert Kirshner, Arlin Crotts, Claes Fransson, Weidong Li, Nino Panagia, Mark Phillips, Brian Schmidt, George Sonneborn, Nicholas Suntzeff, Lifan Wang, & J. Craig Wheeler.* 593, 809 (2003)

Michtchenko, T. A. Extrasolar Planets in Mean-Motion Resonance: Apses Alignment and Asymmetric Stationary Solutions. *C. Beaugé, S. Ferraz-Mello, & T. A. Michtchenko.* 593, 1124 (2003)

Mieksin, Avery. See Blanton, Michael R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

Mignoli, M. See Gilli, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

See Poli, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

Miley, George. See Reuland, Michiel, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

Millan-Gabet, R. See Colavita, M., et al. Observations of DG Tauri with the Keck Interferometer.

Millar, T. J. Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

Miller, Christopher J. Eccentricity Evolution in Simulated Galaxy Clusters. *Stephan N. Floor, Adrian L. Melott, Christopher J. Miller, & Greg L. Bryan.* 591, 741 (2003)

Miller, J. M. Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

Miller, Scott T. Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

Milosavljević, Miloš. The Need for a Second Black Hole at the Galactic Center. *Brad M. S. Hansen & Miloš Milosavljević.* 593, L77 (2003)

Minezaki, Takeo. See Yoshii, Yuzuru, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

Miranda, P. See Watanabe, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

Misao, Y. Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

Mitchell, G. F. Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Mitra, Sanjit. Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

Miville-Deschenes, M.-A. On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

MIYAGOSHI, TAKEHIRO. Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

MIZUMOTO, Y. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

MIZUNO, A. High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

MOCHIZUKI, YUKO. Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

MOHANTY, SUBHANJOY. Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

MOHR, JOSEPH J. Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

MOISEEV, A. V. The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

MOLENDI, SILVANO. SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

MONNIER, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

MONTES, MARCOS J. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

MONTMERLE, THIERRY. 10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

MOORE, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

MOORE, R. L. Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

MOORWOOD, ALAN. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

MOORWOOD, ALAN F. M. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

MOOS, H. W. See ANDRÉ, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

MORGANTI, R. Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

MORI, KAYA. Isolated Magnetar Spin-Down, Soft X-Ray Emission, and RX J1856.5−3754. *Kaya Mori & Malvin A. Ruderman.* 592, L75 (2003)

MORI, M. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

MORO, H. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

MORRIS, M. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

MORSINK, SHARON M. Saturation of the *r*-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

MÜLLER, CHRISTIAN M. Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

MUELLER, HANS-REINHARD. A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

MUELLER, P. On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

MUELLER, PETER J. A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

MUENCH, A. A. A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

MUKHERJEE, PIA. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

Wavelet Band Powers of the Primordial Power Spectrum from Cosmic Microwave Background Data. *Pia Mukherjee & Yun Wang.* 593, 38 (2003)

MULLAN, D. J. Onset of Mass Loss in Red Giants: Association with an Evolutionary Event. *D. J. Mullan & J. MacDonald.* 591, 1203 (2003)

MUNDELL, C. See MCDOWELL, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

MUNDT, REINHARD. Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

MUNDY, LEE G. Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

MUNN, JEFFREY A. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

MUNN, JEFFREY R. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

MUÑOZ-TUÑÓN, CASIANA. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

MURAISHI, H. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

MURAKAMI, K. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

MURAKI, Y. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

MURAYAMA, TAKASHI. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

MURPHY, D. C. Infrared Photometry of Starless Dense Cores. *D. C. Murphy & P. C. Myers.* 591, 1034 (2003)

MURPHY, E. M. Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

MURRAY, S. S. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

MURRAY, STEPHEN D. Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

MURRAY, STEPHEN S. Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

MUSIELAK, Z. E. *Chandra* Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

MUZEROLLE, JAMES. Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

MYERS, P. C. Infrared Photometry of Starless Dense Cores. *D. C. Murphy & P. C. Myers.* 591, 1034 (2003)

MYERS, S. T. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager. *S. T. Myers, C. R. Contaldi, J. R. Bond, U.-L. Pen, D. Pogosyan, S. Prunet, J. L. Sievers, B. S. Mason, T. J. Pearson, A. C. S. Readhead, & M. C. Shepherd.* 591, 575 (2003)

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

NAGAO, TOHRU. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

NAGATA, TETSUYA. Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

NAGATAKI, SHIGEHIRO. Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

NAITO, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

NAKAI, HIROSHI. The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

NAKAMURA, T. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

NAKAMURA, TAKASHI. Delayed Flashes from Counterjets of Gamma-Ray Bursts. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 591, 283 (2003)

Cosmological X-Ray Flashes in the Off-Axis Jet Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 593, 941 (2003)

NAKANO, HIDEYUKI. Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

NAKASE, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

NAKATA, F. The Transformation of Galaxies within the Large-Scale Structure around a $z = 0.41$ Cluster: Erratum (ApJ, 562, L9 [2001]). *T. Kodama, Ian Smail, F. Nakata, S. Okamura, & R. G. Bower.* 591, L169 (2003) (Orig. paper in 562, L9 (2001))

NAKAYA, HIDEHIKO. Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

NANCE, C. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

NANDRA, K. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

NARAYAN, RAMESH. Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

NARAYANAN, VIJAY. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

NARITA, T. X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

NATARAJAN, PRIYAMVADA. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

NAVARRO, JULIO F. Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

NAYFEH, MUNIR H. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

NESVORNÝ, DAVID. Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levision, & Luke Dones.* 591, 486 (2003)

NEYMAN, C. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

NG, C. K. Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

NG, Y. JACK. Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

NICASTRO, L. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

NICHOL, R. C. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

NICHOL, ROBERT C. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

NIESSNER, A. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

NISHI, R. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

NISHIDA, D. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

NISHIJIMA, K. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

NISSEN, P. E. Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

NITA, GELU M. Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

NOBLE, M. *Chandra* Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

NODA, S. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

NOESKE, KAI. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

NOMOTO, K. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

NOMOTO, KEN'ICHI. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

NONINO, M. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

See Poli, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

Norman, C. See Gilli, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

Norris, John E. See Aoki, Wako, et al. Europium Isotope Ratios in s-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

Noumaru, J. See Kawabata, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

Nousek, John A. Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

Nozawa, Satoshi. The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

Nugent, Peter. See Kasen, Daniel, et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

Nugent, Peter E. See Wang, Lifan, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

O'Brien, P. T. A Massive X-Ray Outflow from the Quasar PDS 456. *J. N. Reeves, P. T. O'Brien, & M. J. Ward.* 593, L65 (2003)

O'Connell, Liam. See Szalay, Alexander S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

O'Connell, Robert W. Age and Abundance Discrimination in Old Stellar Populations Using Mid-Ultraviolet Colors. *Ben Dorman, Robert W. O'Connell, & Robert T. Rood.* 591, 878 (2003)

Oegerle, W. R. Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Oemler, Augustus. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

Ogasawara, R. See Kawabata, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

Ogio, S. See Watanabe, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

Ohashi, Nagayoshi. Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

Ohishi, M. See Enomoto, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

Ohmori, N. See Watanabe, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

Ohnishi, K. See Sumi, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

Ohyama, Y. See Kawabata, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

Ohyama, Youichi. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$. *Youichi Ohyama, Yoshiaki Taniguchi, Koji S. Kawabata, Yasuhiro Shioya, Takashi Murayama, Tohru Nagao, Tadafumi Takata, Masanori Iye, & Michitoshi Yoshida.* 591, L9 (2003)

Oishi, Jeffrey. Cassiopeia A and Its Clumpy Presupernova Wind. *Roger A. Chevalier & Jeffrey Oishi.* 593, L23 (2003)

Okamura, S. The Transformation of Galaxies within the Large-Scale Structure around a $z = 0.41$ Cluster: Erratum (ApJ, 562, L9 [2001]). *T. Kodama, Ian Smail, F. Nakata, S. Okamura, & R. G. Bower.* 591, L169 (2003) (Orig. paper in 562, L9 (2001))

Okamura, Sadanori. See Blanton, Michael R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

Okumura, K. See Enomoto, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

Olbert, C. M. *Chandra* Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

Oliveira, C. M. See André, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

Olszewski, E. W. See Stanek, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

O'Neil, Karen. Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

Onishi, T. High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

Oomens, Jos. Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Oosterloo, T. A. Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

Opher, Merav. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

Opher, R. Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

Origlia, Livia. A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

Orlandini, M. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

Orosz, J. Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

Orosz, Jerome A. Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

Orr, K. A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

Ostriker, Eve C. Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

Otte, B. Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Owocki, Stanley P. X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

Pacini, Alessandra A. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

Paczyński, B. Geometrically Thin Disk Accreting into a Black Hole. *N. Afshordi & B. Paczyński.* 592, 354 (2003)

Ellipsoidal Variability in the OGLE Planetary Transit Candidates. *E. Sirko & B. Paczyński.* 592, 1217 (2003)

Padin, S. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

PADOAN, P. Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

PAERELS, FRITS. Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

PAIN, C. C. Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

PALAZZI, E. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

PALMER, D. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

PANAGIA, NINO. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

PANAITESCU, A. The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

PANCINO, ELENA. A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

PANNUTI, THOMAS G. *RXTE*, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

PAPADEROS, POLYCHRONIS. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

PARENTI, S. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

PARISE, B. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

PARK, SANGWOOK. An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

PASCUCCI, I. First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

PATTERSON, J. R. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

PATUREL, G. Prediction of the Sidereal Time Distribution of Gravitational Wave Events for Different Detectors. *G. Paturel & Yu. Baryshev.* 592, L99 (2003)

PAVLOV, G. G. The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

PEALE, S. J. Secular Evolution of Hierarchical Planetary Systems. *Man Hoi Lee & S. J. Peale.* 592, 1201 (2003)

PEARSON, J. First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

PEARSON, T. J. See MASON, B. S., et al. The Anisotropy of the Microwave Background to l = 3500: Deep Field Observatons with the Cosmic Background Imager.

The Anisotropy of the Microwave Background to l = 3500: Mosaic Observations with the Cosmic Background Imager. *T. J. Pearson, B. S. Mason, A. C. S. Readhead, M. C. Shepherd, J. L. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U.-L. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 556 (2003)

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

PEDERSEN, KRISTIAN. Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

PEETERS, ZAN. The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

PEIMBERT, A. The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

PEIMBERT, M. The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

PELLIN, MICHAEL J. Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

PEN, U. See MASON, B. S., et al. The Anisotropy of the Microwave Background to l = 3500: Deep Field Observatons with the Cosmic Background Imager.

PEN, U.-L. See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to l = 3500: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

PEN, UE-LI. Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

PENDHARKAR, JAYANT K. Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

PENNY, ALAN J. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

PEOPLES, JOHN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

PÉREZ-GONZÁLEZ, PABLO G. Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

PEREZ-TORRES, M. A. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

PERLEY, R. A. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

PERLMUTTER, SAUL. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

PERNA, R. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

PEROLA, C. G. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

PETERSON, BRUCE A. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

PETTERSON, O. K. L. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

PETTINI, MAX. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

PEVTSOV, ALEXEI A. Helicity Evolution in Emerging Active Regions. *Alexei A. Pevtsov, Vasily M. Maleev, & Dana W. Longcope.* 593, 1217 (2003)

PFALZNER, S. Spiral Arms in Accretion Discs Encounters. *S. Pfalzner.* 592, 986 (2003)

PFEIFFER, B. Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

PFEIFFER, BERND. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

PHILHOUR, B. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

PHILLIPS, MARK. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

PHILLIPS, MARK L. F. A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

PHILLIPS, T. G. First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

PIEKAREWICZ, J. Low-Mass Neutron Stars and the Equation of State of Dense Matter. *J. Carriere, C. J. Horowitz, & J. Piekarewicz.* 593, 463 (2003)

PIER, JEFFREY R. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

PIERRE, M. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

PINDOR, B. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

PINTO, PHILIP A. Shock Breakout in Core-Collapse Supernovae and Its Neutrino Signature. *Todd A. Thompson, Adam Burrows, & Philip A. Pinto.* 592, 434 (2003)

PIRO, L. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

PIZZOLATO, FABIO. SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

PLAMBECK, R. L. High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

PLATAIS, IMANTS. ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

PLIONIS, M. Galaxy Bias in Quintessence Cosmological Models. *S. Basilakos & M. Plionis.* 593, L61 (2003)

PLUCINSKY, P. P. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

POGOSYAN, D. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

POLETTO, G. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

POLI, F. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$. *F. Poli, E. Giallongo, A. Fontana, N. Menci, G. Zamorani, M. Nonino, P. Saracco, E. Vanzella, I. Donnarumma, S. Salimbeni, A. Cimatti, S. Cristiani, E. Daddi, S. D'Odorico, M. Mignoli, L. Pozzetti, & A. Renzini.* 593, L1 (2003)

POMPÉIA, LUCIANA. Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

PONMAN, T. J. A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

POOLEY, DAVID. Dynamical Formation of Close Binary Systems in Globular Clusters. *David Pooley, Walter H. G. Lewin, Scott F. Anderson, Holger Baumgardt, Alexei V. Filippenko, Bryan M. Gaensler, Lee Homer, Piet Hut, Victoria M. Kaspi, Junichiro Makino, Bruce Margon, Steve McMillan, Simon Portegies Zwart, Michiel van der Klis, & Frank Verbunt.* 591, L131 (2003)

POPE, ADRIAN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

PORTEGIES ZWART, SIMON. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

PORTEGIES ZWART, SIMON F. The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

PORTER, J. G. *Chandra* Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

POSSENTI, A. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

POUNDS, K. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

POZZETTI, L. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

PRATO, L. See BURGASSER, ADAM J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

PRAVDO, S. H. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

PREITE-MARTINEZ, A. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

PRESTON, GEORGE W. Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

PRIMAS, FRANCESCA. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

PRINGLE, J. E. The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

PROCHASKA, JASON X. C II* Absorption in Damped Lyα Systems. I. Star Formation Rates in a Two-Phased Medium. *Arthur M. Wolfe, Jason X. Prochaska, & Eric Gawiser.* 593, 215 (2003)

C II* Absorption in Damped Lyα Systems. I. A New Window on the Star Formation History of the Universe. *Arthur M. Wolfe, Eric Gawiser, & Jason X. Prochaska.* 593, 235 (2003)

PROGA, DANIEL. On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

PROTHEROE, R. J. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

PRUET, JASON. Neutrinos from the Propagation of a Relativistic Jet through a Star. *Jason Pruet.* 591, 1104 (2003)

PRUNET, S. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

PRYKE, C. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

PTAK, A. A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

PUDRITZ, RALPH E. Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

PUN, C. S. J. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

PURTON, C. R. Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

PUZZARINI, C. Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

QIU, H. M. Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

QUI, JIONG. Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

QUILLEN, ALICE C. Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

QUINN, THOMAS. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

RAGA, ALEX. Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

RAIG, ANDREU. On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

RAMESH, R. Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

RAO, A. R. Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

RASIO, F. A. The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

RATRA, BHARAT. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

RATTENBURY, N. J. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

RAULIN, JEAN-PIERRE. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

RAYMOND, JOHN. The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

REACH, WILLIAM T. Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

READHEAD, A. C. S. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See MYERS, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

REAMES, D. V. Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

REDER, L. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

REES, M. J. Gamma-Ray Bursts as X-Ray Depth Gauges of the Universe. *P. Mészáros & M. J. Rees.* 591, L91 (2003)

Iron K Lines from Gamma-Ray Bursts. *T. R. Kallman, P. Mészáros, & M. J. Rees.* 593, 946 (2003)

REEVES, J. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

REEVES, J. N. A Massive X-Ray Outflow from the Quasar PDS 456. *J. N. Reeves, P. T. O'Brien, & M. J. Ward.* 593, L65 (2003)

REGAN, MICHAEL W. Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

REGIMBAU, TANIA. Observational Evidence for a Correlation between Peak Luminosities and Beaming in Gamma-Ray Bursts. *Maurice H. P. M. van Putten & Tania Regimbau.* 593, L15 (2003)

REID, I. NIELL. See BURGASSER, ADAM J., et al. The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics.

REID, M. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

REID, MARK J. A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

REIPURTH, BO. Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

REMILLARD, RONALD A. Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

RENZINI, A. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

RENZINI, ALVIO. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

RETTER, ALON. Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

REULAND, MICHIEL. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies. *Michiel Reuland, Wil van Breugel, Huub Röttgering, Wim de Vries, S. A. Stanford, Arjun Dey, Mark Lacy, Joss Bland-Hawthorn, Michael Dopita, & George Miley.* 592, 755 (2003)

REY, SOO-CHANG. ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

REYNOLDS, S. P. *Chandra* Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

Reynolds, Stephen P. Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

Rho, Jeonghee. Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

Rhoads, James E. Dirty Fireballs and Orphan Afterglows: A Tale of Two Transients. *James E. Rhoads.* 591, 1097 (2003)

Ribeiro, Marcelo B. Relativistic Cosmology Number Counts and the Luminosity Function. *Marcelo B. Ribeiro & William R. Stoeger.* 592, 1 (2003)

Rich, R. Michael. LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Galaxy and the Galactic Bulge: Erratum (ApJ, 592, L21 [2003]). *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 593, L145 (2003) (Orig. paper in 592, L21 (2003))

Richardson, I. G. Coronal Mass Ejections, the Tail of the Solar Wind Magnetic Field Distribution, and 11 Year Cosmic-Ray Modulation at 1 AU. *E. W. Cliver, A. G. Ling, & I. G. Richardson.* 592, 574 (2003)

Richstone, Douglas O. Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

Ricker, G. R. See Baganoff, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

Rieke, G. H. Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

Riley, P. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

Rix, Hans-Walter. See Labbé, Ivo, et al. Large Disklike Galaxies at High Redshift.

Roberge, W. G. A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Roberts, Helen. Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

Robinson, F. J. Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

Rockosi, Constance. See Szalay, Alexander S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

Rodriguez, R. A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

Roettgering, H. J. A. See Cohen, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

Röttgering, Huub. See Labbé, Ivo, et al. Large Disklike Galaxies at High Redshift.

See Reuland, Michiel, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

Roger, R. S. Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Rohwer, Erich G. Accurate Laboratory Wavelengths of the Vacuum Ultraviolet $A(v' = 3)$–$X(v'' = 0)$ Band of $^{12}C^{17}O$ and ^{1218}O: Erratum (AoJ, 590, L123 [2003]). *Christine M. Steinmann, Erich G. Rohwer, & Herbert Stafast.* 591, L167 (2003) (Orig. paper in 590, L123 (2003))

Romanova, M. M. Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

Roming, Peter W. A. An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Romoli, M. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

Rood, Robert T. Age and Abundance Discrimination in Old Stellar Populations Using Mid-Ultraviolet Colors. *Ben Dorman, Robert W. O'Connell, & Robert T. Rood.* 591, 878 (2003)

Rosati, P. See Gilli, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

Rosenberg, Jessica L. Probing the Size of Low-Redshift Lyα Absorbers. *Jessica L. Rosenberg, Rajib Ganguly, Mark L. Giroux, & John T. Stocke.* 591, 677 (2003)

Rots, A. A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

Roussel, H. Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

Rovira, Marta. Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

Rudeen, A. See Colavita, M., et al. Observations of DG Tauri with the Keck Interferometer.

Ruderman, Malvin A. Isolated Magnetar Spin-Down, Soft X-Ray Emission, and RX J1856.5−3754. *Kaya Mori & Malvin A. Ruderman.* 592, L75 (2003)

Rudnick, Gregory. See Labbé, Ivo, et al. Large Disklike Galaxies at High Redshift.

Ruffolo, D. Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

Ruiterkamp, R. The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

Runnegar, B. Successive Refinements in Long-Term Integrations of Planetary Orbits. *F. Varadi, B. Runnegar, & M. Ghil.* 592, 620 (2003)

Runyan, M. C. See Benson, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

Ryan, Sean G. See Aoki, Wako, et al. Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching.

Ryu, Dongsu. Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

Safi-Harb, S. *Chandra* Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

Safi-Harb, Samar. *Chandra* Detection of the High Magnetic Field Radio Pulsar J1119−6127 in the Supernova Remnant G292.2−0.5. *Marjorie Gonzalez & Samar Safi-Harb.* 591, L143 (2003)

Saito, To. See Sumi, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

Saito, Y. See Sumi, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

Sakajiri, Takuma. Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

SAKAMOTO, T. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

SAKO, T. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

SAKURAZAWA, K. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

SALAMA, F. See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

SALIMBENI, S. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

SALMONSON, JAY D. Perspective on Afterglows: Numerically Computed Views, Light Curves, and the Analysis of Homogeneous and Structured Jets with Lateral Expansion. *Jay D. Salmonson.* 592, 1002 (2003)

SALOGA, T. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

SALVADOR-SOLÉ, EDUARD. On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

SAMBRUNA, RITA M. Emission-Line Diagnostics of the Central Engines of Weak-Line Radio Galaxies. *Karen T. Lewis, Michael Eracleous, & Rita M. Sambruna.* 593, 115 (2003)

SÁNCHEZ ALMEIDA, J. Magnetic Fields in the Quiet Sun: Observational Discrepancies and Unresolved Structure. *H. Socas-Navarro & J. Sánchez Almeida.* 593, 581 (2003)

SÁNCHEZ-SALCEDO, F. J. Unstable Cold Dark Matter and the Cuspy Halo Problem in Dwarf Galaxies. *F. J. Sánchez-Salcedo.* 591, L107 (2003)

SANCHIS, TERESA. On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

SANDQUIST, ERIC L. Cataclysmic Variable Evolution with Circumbinary Disks. *Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus.* 592, 1124 (2003)

SANO, T. Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

SANTOS-LLEÓ, M. Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

SANWAL, D. The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

SARACCO, P. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

SARAZIN, CRAIG L. *Chandra* Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

SARGENT, A. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

SARTAKOV, BORIS G. Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

SASAKI, T. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

SASSEEN, T. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

SASSELOV, DIMITAR D. Radiative Transfer on Perturbations in Protoplanetary Disks. *Hannah Jang-Condell & Dimitar D. Sasselov.* 593, 1116 (2003)

Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

SASTRY, CH. V. Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

SATO, H. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

SATO, KATSUHIKO. Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

SATO, SHUJI. Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

SAUCEDO, JOSÉ. The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

SAVIN, D. W. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

SCHÄFER, GREGOR. Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

SCHENK, A. KATRIN. Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

SCHIEDER, R. [C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

SCHILD, R. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

SCHINNERER, EVA. Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

SCHLEGEL, DAVID. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

SCHMIDT, BRIAN. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

SCHMIDT, G. D. A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

SCHMIDT, GARY D. Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

SCHNEIDER, DONALD P. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

SCHOU, J. A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

SCHURCH, N. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

SCHURCH, N. J. *XMM-Newton* Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

SCHWEIZER, FRANÇOIS. A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

SCOCCIMARRO, ROMAN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

SCOVILLE, NICHOLAS Z. Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

SCRANTON, RYAN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

SEATON, DANIEL B. Evolving Active Region Loops Observed With the *Transition Region and Coronal Explorer*. I. Observations. *Amy R. Winebarger, Harry P. Warren, & Daniel B. Seaton.* 593, 1164 (2003)

SEFAKO, RAMOTHOLO R. Constraints on Pulsar Magnetospheric and Wind Parameters for the Compact Nebulae of Vela and PSR B1706−44. *Ramotholo R. Sefako & Ocker C. de Jager.* 593, 1013 (2003)

Sekanina, Zdenek. Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

Sekiguchi, K. See Kawabata, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

Sekiguchi, M. See Sumi, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

Sembach, K. R. Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Sembach, Kenneth R. On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

Serabyn, E. See Colavita, M., et al. Observations of DG Tauri with the Keck Interferometer.

Shaked, S. See McDowell, J. C., et al. *Chandra* Observations of Extended X-Ray Emission in Arp 220.

Shao, M. See Colavita, M., et al. Observations of DG Tauri with the Keck Interferometer.

Shapley, Alice E. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

Shaposhnikov, Nickolai. The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

Shara, Michael M. LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

Sheeley, N. R., Jr. Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

Sheffer, Yaron. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Shenoy, S. S. A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Shepherd, M. C. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See Myers, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

See Sievers, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

Sheridan, P.M. Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

Sheth, Kartik. Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

Sheth, Ravi K. See Szalay, Alexander S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

Shibata, Kazunari. Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

Shibata, Shinpei. Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Shimasaku, Kazuhiro. See Blanton, Michael R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

Shimizu, Tetsuya. Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

Shiota, Daikou. Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

Shioya, Yasuhiro. See Ohyama, Youichi, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

Shirasaki, Y. See Watanabe, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

See Kawabata, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

Shore, Steven N. Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

Sievers, J. See Mason, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

Sievers, J. L. See Pearson, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See Myers, S. T., et al. A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager.

Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA. *J. L. Sievers, J. R. Bond, J. K. Cartwright, C. R. Contaldi, B. S. Mason, S. T. Myers, S. Padin, T. J. Pearson, U.-L. Pen, D. Pogosyan, S. Prunet, A. C. S. Readhead, M. C. Shepherd, P. S. Udomprasert, L. Bronfman, W. L. Holzapfel, & J. May.* 591, 599 (2003)

Sil'chenko, O. K. The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

Sion, Edward M. WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

Hubble Space Telescope Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae. *Edward M. Sion, Boris T. Gaensicke, Knox S. Long, Paula Szkody, Fu-Hua Cheng, Steve B. Howell, Patrick Godon, William F. Welsh, Sumner Starrfield, Christian Knigge, & Warren M. Sparks.* 592, 1137 (2003)

Sirko, E. Ellipsoidal Variability in the OGLE Planetary Transit Candidates. *E. Sirko & B. Paczyński.* 592, 1217 (2003)

Skjaeraasen, O. Dissipation in Poynting-Flux–dominated Flows: The σ-Problem of the Crab Pulsar Wind. *J. G. Kirk & O. Skjaeraasen.* 591, 366 (2003)

Skodras, A. Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

Skuljan, J. See Sumi, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

Slane, P. O. X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

Slane, Patrick O. An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

Smail, Ian. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

The Transformation of Galaxies within the Large-Scale Structure around a $z = 0.41$ Cluster: Erratum (ApJ, 562, L9 [2001]). *T. Kodama, Ian Smail, F. Nakata, S. Okamura, & R. G. Bower.* 591, L169 (2003) (Orig. paper in 562, L9 (2001))

SMECKER-HANE, TAMMY A. Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Galaxy and the Galactic Bulge: Erratum (ApJ, 592, L21 [2003]). *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 593, L145 (2003) (Orig. paper in 592, L21 (2003))

SMITH, CHARLES W. Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons. *Philip A. Isenberg, Charles W. Smith, & William H. Matthaeus.* 592, 564 (2003)

SMITH, DAVID A. A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

SMITH, ED. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

SMITH, HARDING E. VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469. *Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond.* 592, 804 (2003)

SMITH, MICHAEL D. Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

SMITH, PAUL S. Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

SMYTHE, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

SNEDEN, CHRISTOPHER. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J. Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz.* 591, 936 (2003)

Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

SNOW, T. P. See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

SOCAS-NAVARRO, H. Magnetic Fields in the Quiet Sun: Observational Discrepancies and Unresolved Structure. *H. Socas-Navarro & J. Sánchez Almeida.* 593, 581 (2003)

SOFIA, S. Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

SOKASIAN, AARON. Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

SOKER, NOAM. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

SOKOLOV, IGOR. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

SOLANES, JOSÉ MARÍA. On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

SOLOMON, STANLEY C. An Estimate of the Sun's *ROSAT*-PSPC X-Ray Luminosities Using *SNOE*-SXP Measurements. *Philip G. Judge, Stanley C. Solomon, & Thomas R. Ayres.* 593, 534 (2003)

SOMERVILLE, RACHEL S. Star Formation at the Twilight of the Dark Ages: Which Stars Reionized the Universe? *Rachel S. Somerville & Mario Livio.* 593, 611 (2003)

The Epoch of Reionization in Models with Reduced Small-Scale Power. *Rachel S. Somerville, James S. Bullock, & Mario Livio.* 593, 616 (2003)

SONNEBORN, GEORGE. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

SOURADEEP, TARUN. Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

SPARKS, WARREN M. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

SPECIAN, MICHAEL A. Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

SPRINGEL, VOLKER. Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

SRAMEK, RICHARD A. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

STACEY, G. J. *Infrared Space Observatory* Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

STAFAST, HERBERT. Accurate Laboratory Wavelengths of the Vacuum Ultraviolet $A(v' = 3)$–$X(v'' = 0)$ Band of $^{12}C^{17}O$ and ^{1218}O: Erratum (ApJ, 590, L123 [2003]). *Christine M. Steinmann, Erich G. Rohwer, & Herbert Stafast.* 591, L167 (2003) (Orig. paper in 590, L123 (2003))

STAIRS, I. H. See MCLAUGHLIN, M. A., et al. PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics.

STANEK, K. Z. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329. *K. Z. Stanek, T. Matheson, P. M. Garnavich, P. Martini, P. Berlind, N. Caldwell, P. Challis, W. R. Brown, R. Schild, K. Krisciunas, M. L. Calkins, J. C. Lee, N. Hathi, R. A. Jansen, R. Windhorst, L. Echevarria, D. J. Eisenstein, B. Pindor, E. W. Olszewski, P. Harding, S. T. Holland, & D. Bersier.* 591, L17 (2003)

Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

STANFORD, S. A. Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

See REULAND, MICHIEL, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

STANIMIROVIĆ, SNEŽANA. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

STARRFIELD, SUMNER. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

STAUFFER, JOHN R. A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

STEBBINS, ALBERT. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

STECKLUM, B. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

STEIDEL, CHARLES C. Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

STEINLE, H. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

STEINMANN, CHRISTINE M. Accurate Laboratory Wavelengths of the Vacuum Ultraviolet $A(v' = 3)$–$X(v'' = 0)$ Band of $^{12}C^{17}O$ and $^{12}I^{8}O$: Erratum (ApJ, 590, L123 [2003]). *Christine M. Steinmann, Erich G. Rohwer, & Herbert Stafast.* 591, L167 (2003) (Orig. paper in 590, L123 (2003))

STEINMETZ, MATTHIAS. Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

STERN, DANIEL. Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

STOCKDALE, CHRISTOPHER J. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

STOCKE, JOHN T. Probing the Size of Low-Redshift Lyα Absorbers. *Jessica L. Rosenberg, Rajib Ganguly, Mark L. Giroux, & John T. Stocke.* 591, 677 (2003)

STOEGER, WILLIAM R. Relativistic Cosmology Number Counts and the Luminosity Function. *Marcelo B. Ribeiro & William R. Stoeger.* 592, 1 (2003)

STOMSKI, P. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

STONE, J. M. Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

STONE, JAMES M. Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

STORRIE-LOMBARDI, LISA J. High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

Surveys for $z > 3$ Damped Lyα Absorption Systems: The Evolution of Neutral Gas: Erratum (ApJ, 543, 552 [2000]). *Lisa J. Storrie-Lombardi & Arthur M. Wolfe.* 592, 1263 (2003) (Orig. paper in 543, 552 (2000))

STOUGHTON, CHRISTOPHER. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

STRANIERO, OSCAR. Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

STRATTA, G. See DE PASQUALE, M., et al. A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts.

STRAUSS, MICHAEL A. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

STRICKLAND, D. A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

STROHMAYER, TOD E. Phase Coherent Timing of RX J0806.3+1527 with *ROSAT* and *Chandra*. *Tod E. Strohmayer.* 593, L39 (2003)

STRUBBE, LINDA E. Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

STURNER, STEVEN J. *RXTE*, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

STUTZKI, J. [C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

SUESS, S. T. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

SUGANUMA, MASAHIRO. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

SUGERMAN, BEN. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

SUGIYAMA, NAOSHI. Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

SULLIVAN, D. J. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

SUMI, T. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis. *T. Sumi, F. Abe, I. A. Bond, R. J. Dodd, J. B. Hearnshaw, M. Honda, M. Honma, Y. Kan-ya, P. M. Kilmartin, K. Masuda, Y. Matsubara, Y. Muraki, T. Nakamura, R. Nishi, S. Noda, K. Ohnishi, O. K. L. Petterson, N. J. Rattenbury, M. Reid, To. Saito, Y. Saito, H. Sato, M. Sekiguchi, J. Skuljan, D. J. Sullivan, M. Takeuti, P. J. Tristram, S. Wilkinson, T. Yanagisawa, & P. C. M. Yock.* 591, 204 (2003)

SUMMERS, K. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

SUNTZEFF, NICHOLAS. See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

SUTHERLAND, RALPH S. The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

SWABY, D. L. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

SWAIN, M. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

SWANSON, P. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

SWEIGART, ALLEN V. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

SYLVESTRE, JULIEN. Prospects for the Detection of Electromagnetic Counterparts to Gravitational Wave Events. *Julien Sylvestre.* 591, 1152 (2003)

SZALAY, ALEXANDER S. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

SZAPUDI, ISTVÁN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

SZKODY, PAULA. WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

SZOKOLY, G. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

TAAM, R. E. The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

TAAM, RONALD E. Cataclysmic Variable Evolution with Circumbinary Disks.

Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus. 592, 1124 (2003)

TACHIBANA, SHOGO. Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

TADHUNTER, C. N. Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

TAKAHARA, FUMIO. The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

TAKAHASHI, MASAAKI. Relativistic Acceleration of Magnetically Driven Jets. *Akira Tomimatsu & Masaaki Takahashi.* 592, 321 (2003)

TAKATA, T. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

TAKATA, TADAFUMI. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

TAKEUCHI, TAKU. Surface Outflow in Optically Thick Dust Disks by Radiation Pressure. *Taku Takeuchi & D. N. C. Lin.* 593, 524 (2003)

TAKEUTI, M. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

TAMAGAWA, T. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

TAMAMURA, MASAYA. The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

TANIGUCHI, YOSHIAKI. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

TANIMORI, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

TANVIR, N. See KLOSE, S., et al. The Very Faint K-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

TAVECCHIO, FABRIZIO. The Jet-Disk Connection and Blazar Unification. *Laura Maraschi & Fabrizio Tavecchio.* 593, 667 (2003)

TAYLOR, A. R. On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

TEGMARK, MAX. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

TETER, M. A. The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

TEUKOLSKY, SAUL A. Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

TEYSSIER, D. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

THADDEUS, P. The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

THEJAPPA, G. Polarization and Fragmentation of Solar Type II Radio Bursts. *G. Thejappa, P. Zlobec, & R. J. MacDowall.* 592, 1234 (2003)

THIELE, U. See KLOSE, S., et al. The Very Faint K-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

THOMPSON, K. L. See BENSON, B. A., et al. Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies.

THOMPSON, M. J. A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

THOMPSON, R. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

THOMPSON, RODGER I. High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

THOMPSON, TODD A. Shock Breakout in Core-Collapse Supernovae and Its Neutrino Signature. *Todd A. Thompson, Adam Burrows, & Philip A. Pinto.* 592, 434 (2003)

THOMSON, K. J. The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

THORSETT, S. E. Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

THORSETT, S.E. The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

TICHÁ, JANA. Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

TICHÝ, MILOŠ. Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

TICONA, R. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

TIELENS, A. G. G. M. Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

TILLEY, DAVID A. Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

TINNEY, C. G. A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

TITARCHUK, LEV. Rayleigh-Taylor Gravity Waves and Quasi-periodic Oscillation Phenomena in X-Ray Binaries. *Lev Titarchuk.* 591, 354 (2003)

The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

TOKANAI, F. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

TOKUNO, H. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

TOMIMATSU, AKIRA. Relativistic Acceleration of Magnetically Driven Jets. *Akira Tomimatsu & Masaaki Takahashi.* 592, 321 (2003)

TOMINAGA, N. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

TOMITA, HIROYUKI. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

TOMSICK, JOHN A. X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

TONG, C. H. Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

TORII, K. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

TOROPIN, YU. M. Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

TOROPINA, O. D. Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

TOTANI, T. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

TOTH, GABOR. Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

TOWNSLEY, L. K. See BAGANOFF, F. K., et al. *Chandra* X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy.

TOWNSLEY, LEISA K. 10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

TOZZI, P. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

TREU, TOMMASO. A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

TREUMANN, R. A. A Model of Zebra Emission in Solar Type IV Radio Bursts. *J. LaBelle, R. A. Treumann, P. H. Yoon, & M. Karlicky.* 593, 1195 (2003)

TREVES, A. Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

TRISTRAM, P. J. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

TRUJILLO, IGNACIO. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

TRURAN, JAMES W. See SNEDEN, CHRISTOPHER, et al. The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis.

TSENG, WEI-LING. Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

TSUBOTA, K. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

TSUCHIYA, H. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

TSUCHIYA, K. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

TSUCHIYAMA, AKIRA. Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

TSUNESADA, Y. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

TSUNOO, H. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

TUCKER, DOUGLAS L. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

TUMMINELLO, A. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

TURNER, N. J. Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

TURNER, T. J. The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

TUROLLA, R. Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

TYLKA, A. J. Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

UCHIDA, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

UDOMPRASERT, P. S. See MASON, B. S., et al. The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager.

See PEARSON, T. J., et al. The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager.

See SIEVERS, J. L., et al. Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA.

UITENBROEK, H. The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

UMEDA, H. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

UMEDA, HIDEYUKI. See YOSHII, YUZURU, et al. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery.

URATA, Y. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

URRY, C. M. See GRANDI, P., et al. *BeppoSAX* Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature.

UTTLEY, P. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

VACCA, W. D. Near-Infrared Spectra of Type Ia Supernovae. *G. H. Marion, P. Höflich, W. D. Vacca, & J. C. Wheeler.* 591, 316 (2003)

VADAWALE, S. V. Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

VALDES, J. R. The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

VALE, CHRIS. Simulating Weak Lensing by Large-Scale Structure. *Chris Vale & Martin White.* 592, 699 (2003)

VAN BELLE, G. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

VAN BREUGEL, WIL. See REULAND, MICHIEL, et al. Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies.

VAN DAM, H. Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

VANDENBERG, DON A. Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

VAN DER HULST, J. M. *Infrared Space Observatory* Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

VAN DER KLIS, MICHIEL. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

VAN DER WEL, ARJEN. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

VAN DER WERF, PAUL. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

VAN DISHOECK, EWINE F. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

VAN DOKKUM, PIETER. On the Assembly History of Early-Type Galaxies in the Hubble Deep Field–North. *Pieter van Dokkum & Richard S. Ellis.* 592, L53 (2003)

VAN DOKKUM, PIETER G. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

VAN DYK, SCHUYLER D. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

VAN PUTTEN, MAURICE H. P. M. Observational Evidence for a Correlation between Peak Luminosities and Beaming in Gamma-Ray Bursts. *Maurice H. P. M. van Putten & Tania Regimbau.* 593, L15 (2003)

VAN STARKENBURG, LOTTIE. See LABBÉ, IVO, et al. Large Disklike Galaxies at High Redshift.

VAN WAERBEKE, LUDOVIC. Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

VAN ZEE, L. Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

VANZELLA, E. See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

VARADI, F. Successive Refinements in Long-Term Integrations of Planetary Orbits. *F. Varadi, B. Runnegar, & M. Ghil.* 592, 620 (2003)

VASISHT, G. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

VASTEL, C. First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

VAUGHAN, S. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

VAUSE, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

VÁZQUEZ, S. E. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

VÁZQUEZ-SEMADENI, ENRIQUE. Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

VEILLEUX, SYLVAIN. Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

VELARDE, A. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

VENKATESAN, APARNA. Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

VENNES, S. The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

VENNES, STÉPHANE. A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

VERBUNT, FRANK. See POOLEY, DAVID, et al. Dynamical Formation of Close Binary Systems in Globular Clusters.

VERDE, LICIA. Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

VERNER, D. Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

VERNER, E. Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

VESPERINI, E. Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

VESTRAND, W. T. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

VIDAL-MADJAR, A. See ANDRÉ, M. K., et al. Oxygen Gas-Phase Abundance Revisited.

VIEGAS, SUELI M. Ultraviolet Continuum, Physical Conditions and Filling Factor in Active Galactic Nuclei: Erratum (ApJ, 587, 562 [2003]). *Lucimara P. Martins, Sueli M. Viegas, & Ruth Gruenwald.* 592, 1264 (2003) (Orig. paper in 587, 562 (2003))

VIETRI, MARIO. On Particle Acceleration around Shocks. I. *Mario Vietri.* 591, 954 (2003)

On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

VIGOTTI, M. Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

VÍLCHEZ, JOSE M. Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

VITON, M. KH 15D: A Star Eclipsed by a Large-Scale Dusty Vortex? *Pierre Barge & M. Viton.* 593, L117 (2003)

VITORINO, B. F. Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

VOCKS, C. Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

VOGELEY, MICHAEL S. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

VOGT, STEVEN S. The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

VOIT, G. MARK. On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

VOLONTERI, MARTA. The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

VON HELDEN, GERT. Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

VRBA, F. J. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

VRTÍLEK, SAEQA D. A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtílek, & Jingqiang Li.* 591, L37 (2003)

VRTILEK, SAEQA DIL. *Chandra* Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

WADA, KEIICHI. Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

WADE, RICHARD A. Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

WAKELAM, V. The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

WALKER, J. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

WALLACE, K. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

WANAJO, SHINYA. The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

WANG, HAIMIN. Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

WANG, J. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

WANG, L. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

WANG, LIFAN. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova. *Lifan Wang, Dietrich Baade, Peter Höflich, Alexei Khokhlov, J. Craig Wheeler, D. Kasen, Peter E. Nugent, Saul Perlmutter, Claes Fransson, & Peter Lundqvist.* 591, 1110 (2003)

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

See KASEN, DANIEL, et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

WANG, Q. D. Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

WANG, X. Y. External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

WANG, X.Y. The Radio Afterglow from the Giant Flare of SGR 1900+14: The Same Mechanism as Afterglows from Classic Gamma-Ray Bursts? *X.Y. Wang & K.S. Cheng.* 593, L85 (2003)

WANG, Y.-M. Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

WANG, YUN. Wavelet Band Powers of the Primordial Power Spectrum from Cosmic Microwave Background Data. *Pia Mukherjee & Yun Wang.* 593, 38 (2003)

WARD, M. J. A Massive X-Ray Outflow from the Quasar PDS 456. *J. N. Reeves, P. T. O'Brien, & M. J. Ward.* 593, L65 (2003)

WARNER, M. R. Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

WARNER, PHILLIP B. A Theoretical γ Doradus Instability Strip. *Phillip B. Warner, Anthony B. Kaye, & Joyce A. Guzik.* 593, 1049 (2003)

WARREN, HARRY P. Evolving Active Region Loops Observed With the *Transition Region and Coronal Explorer*. I. Observations. *Amy R. Winebarger, Harry P. Warren, & Daniel B. Seaton.* 593, 1164 (2003)

Evolving Active Region Loops Observed with the *Transition Region and Coronal Explorer*. II. Time-Dependent Hydrodynamic Simulations. *Harry P. Warren, Amy R. Winebarger, & John T. Mariska.* 593, 1174 (2003)

WARREN, JESSICA S. Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

WARWICK, R. See MARKOWITZ, A., et al. X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies.

WASSERMAN, IRA. Saturation of the *r*-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

WATANABE, A. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

WATANABE, J. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

WATANABE, K. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24. *K. Watanabe, Y. Muraki, Y. Matsubara, K. Murakami, T. Sako, H. Tsuchiya, S. Masuda, M. Yoshimori, N. Ohmori, P. Miranda, N. Martinic, R. Ticona, A. Velarde, F. Kakimoto, S. Ogio, Y. Tsunesada, H. Tokuno, & Y. Shirasaki.* 592, 590 (2003)

WATANABE, MAKOTO. Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

WATANABE, S. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

WATERS, L. B. F. M. First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

WEAVER, K. A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

WEAVER, K. A. Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

WEHMEIER, U. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

WEILER, KURT W. Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

WEINBERG, DAVID H. See BLANTON, MICHAEL R., et al. The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$.

See BERLIND, ANDREAS A., et al. The Halo Occupation Distribution and the Physics of Galaxy Formation.

WEINBERGER, A. J. No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

WEISBERG, JOEL M. Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

WELCH, W. J. Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

WELSH, BARRY. High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

WELSH, WILLIAM F. See SION, EDWARD M., et al. *Hubble Space Telescope* Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae.

WESTPHAL, ANDREW J. A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

WETTERICH, CHRISTOF. Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

WEYMANN, RAY J. High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

WHEELER, J. C. Near-Infrared Spectra of Type Ia Supernovae. *G. H. Marion, P. Höflich, W. D. Vacca, & J. C. Wheeler.* 591, 316 (2003)

See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

WHEELER, J. CRAIG. See WANG, LIFAN, et al. Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova.

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

See KASEN, DANIEL, et al. Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta.

See MICHAEL, ELI, et al. *Hubble Space Telescope* Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock.

WHITE, MARTIN. Simulating Weak Lensing by Large-Scale Structure. *Chris Vale & Martin White.* 592, 699 (2003)

WHITNEY, BARBARA A. Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

WHITTET, D. C. B. A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

WICKRAMASINGHE, D. T. A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

WIELEBINSKI, R. On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

WILKINSON, S. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

WILLIAMS, JONATHAN P. High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

WILLS, BEVERLEY J. Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

WILMAN, R. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

WILSON, ANDREW S. A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

WILSON, JOHN C. Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

WINDHORST, R. See STANEK, K. Z., et al. Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329.

WINEBARGER, AMY R. Evolving Active Region Loops Observed With the *Transition Region and Coronal Explorer*. I. Observations. *Amy R. Winebarger, Harry P. Warren, & Daniel B. Seaton.* 593, 1164 (2003)

Evolving Active Region Loops Observed with the *Transition Region and Coronal Explorer*. II. Time-Dependent Hydrodynamic Simulations. *Harry P. Warren, Amy R. Winebarger, & John T. Mariska.* 593, 1174 (2003)

WINGET, D. E. *Chandra* Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

WINN, JOSHUA N. Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

WITT, A. N. See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

WIZINOWICH, P. See COLAVITA, M., et al. Observations of DG Tauri with the Keck Interferometer.

WOLF, SEBASTIAN. Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

WOLFE, ARTHUR M. Surveys for $z > 3$ Damped Lyα Absorption Systems: The Evolution of Neutral Gas: Erratum (ApJ, 543, 552 [2000]). *Lisa J. Storrie-Lombardi & Arthur M. Wolfe.* 592, 1263 (2003) (Orig. paper in 543, 552 (2000))

C II* Absorption in Damped Lyα Systems. I. Star Formation Rates in a Two-Phased Medium. *Arthur M. Wolfe, Jason X. Prochaska, & Eric Gawiser.* 593, 215 (2003)

C II* Absorption in Damped Lyα Systems. I. A New Window on the Star Formation History of the Universe. *Arthur M. Wolfe, Eric Gawiser, & Jason X. Prochaska.* 593, 235 (2003)

WOLFF, MICHAEL J. Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

See CLAYTON, GEOFFREY C., et al. The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons.

WOLFSON, RICHARD. Role of Magnetic Flux Distribution in Coronal Energy Storage. *Richard Wolfson.* 593, 1208 (2003)

WOLSZCZAN, A. The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

WOLSZCZAN, ALEX. Masses and Orbital Inclinations of Planets in the PSR B1257+12 System. *Maciej Konacki & Alex Wolszczan.* 591, L147 (2003)

WOO, RICHARD. See HABBAL, SHADIA RIFAI, et al. On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes.

WOOD, BRIAN E. A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

WOOD, KENNETH. Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

High-Latitude H I in the Low Surface Brightness Galaxy UGC 7321. *L. D. Matthews & Kenneth Wood.* 593, 721 (2003)

WOOSLEY, S. E. How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

WORRALL, D. M. X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

WU, JINGWEN. Indications of Inflow Motions in Regions Forming Massive Stars. *Neal J. Evans II & Jingwen Wu.* 592, L79 (2003)

WU, X. F. GRB 030226 in a Density-Jump Medium. *Z. G. Dai & X. F. Wu.* 591, L21 (2003)

WYSE, ROSEMARY F. G. Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

YAMADA, T. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

YAMAMOTO, H. High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

YAMAMOTO, TETSUYA T. Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

YAMAZAKI, RYO. Delayed Flashes from Counterjets of Gamma-Ray Bursts. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 591, 283 (2003)

Cosmological X-Ray Flashes in the Off-Axis Jet Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 593, 941 (2003)

YAN, HUIRONG. Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

YANAGISAWA, T. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

YANAGITA, S. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

YANNY, BRIAN. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

YAQOOB, TAHIR. The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

YEE, H. K. C. The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

YOCK, P. C. M. See SUMI, T., et al. Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis.

YOKOYAMA, TAKAAKI. Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

YOON, P. H. A Model of Zebra Emission in Solar Type IV Radio Bursts. *J. LaBelle, R. A. Treumann, P. H. Yoon, & M. Karlicky.* 593, 1195 (2003)

YORK, DONALD G. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

YOSHIDA, A. See KAWABATA, K. S., et al. On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329.

YOSHIDA, MICHITOSHI. See OHYAMA, YOUICHI, et al. On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$.

YOSHIDA, NAOKI. Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

YOSHIDA, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

YOSHIGUCHI, HIROYUKI. Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

YOSHII, YUZURU. The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery. *Yuzuru Yoshii, Hiroyuki Tomita, Yukiyasu Kobayashi, Jinsong Deng, Keiichi Maeda, Ken'ichi Nomoto, Paolo A. Mazzali, Hideyuki Umeda, Tsutomu Aoki, Mamoru Doi, Keigo Enya, Takeo Minezaki, Masahiro Suganuma, & Bruce A. Peterson.* 592, 467 (2003)

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

YOSHIKOSHI, T. See ENOMOTO, R., et al. Search for TeV Gamma Rays from SN 1987A in 2001.

YOSHIMORI, M. See WATANABE, K., et al. Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24.

YOUNG, L. M. Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

YOUNG, P. A. The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

YUAN, MICHAEL JUNTAO. Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

ZABLUDOFF, ANN I. Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

ZAMORANI, G. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

See POLI, F., et al. The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$.

ZAMORANO, JAIME. Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

ZAMPIERI, L. Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

ZANE, S. Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

ZANICHELLI, A. See COHEN, A. S., et al. The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey.

ZANK, GARY P. A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

ZAPATERO OSORIO, M. R. Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martín & M. R. Zapatero Osorio.* 593, L113 (2003)

ZAQARASHVILI, T. On a Mechanism for Enhancing Magnetic Activity in Tidally Interacting Binaries: Erratum (ApJ, 579, 810 [2002]). *T. Zaqarashvili, G. Javakhishvili, & G. Belvedere.* 591, 498 (2003) (Orig. paper in 579, 810 (2002))

ZATSARINNY, O. Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

ZDZIARSKI, A. A. Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

ZEH, A. See KLOSE, S., et al. The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts.

ZEHAVI, IDIT. See SZALAY, ALEXANDER S., et al. Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data.

ZEPF, S. E. Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

ZEZAS, A. A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

ZHAN, HU. The Multiphase Intracluster Medium in Galaxy Groups Probed by the Lyα Forest. *Hu Zhan, Li-Zhi Fang, & David Burstein.* 592, L1 (2003)

ZHANG, HONGQI. Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

ZHANG, JIAN. The Effect of the Compton Backscattering Component on the Photon Spectra of Three *Yohkoh*/Hard X-Ray Telescope Flares. *Jian Zhang & Guang Li Huang.* 592, L49 (2003)

ZHANG, PENGJIE. Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

ZHANG, TONGJIE. Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

ZHAO, G. Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

ZHAO, JUNWEI. Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot beneath the Solar Surface. *Junwei Zhao & Alexander G. Kosovichev.* 591, 446 (2003)

ZHAO, Y. Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

ZHENG, W. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

ZHOU, JILIN. The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

ZIBETTI, STEFANO. QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

ZIRM, A. See GILLI, R., et al. Tracing the Large-Scale Structure in the *Chandra* Deep Field South.

ZIURYS, L. M. The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

ZIURYS, LUCY M. Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

ZLOBEC, P. Polarization and Fragmentation of Solar Type II Radio Bursts. *G. Thejappa, P. Zlobec, & R. J. MacDowall.* 592, 1234 (2003)

ZSARGÓ, J. Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

ZURBUCHEN, T. Z. Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

SUBJECT INDEX

PARTS 1 & 2, VOLUMES 591–593

2003 JULY 1 TO AUGUST 20

ACCELERATION OF PARTICLES

X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

On Particle Acceleration around Shocks. I. *Mario Vietri.* 591, 954 (2003)

Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

RXTE, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

ACCRETION, ACCRETION DISKS

A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

Rayleigh-Taylor Gravity Waves and Quasi-periodic Oscillation Phenomena in X-Ray Binaries. *Lev Titarchuk.* 591, 354 (2003)

Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

Chandra X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

XMM-Newton Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

Geometrically Thin Disk Accreting into a Black Hole. *N. Afshordi & B. Paczyński.* 592, 354 (2003)

The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

Spiral Arms in Accretion Discs Encounters. *S. Pfalzner.* 592, 986 (2003)

Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

Global General Relativistic Magnetohydrodynamic Simulations of Accretion Tori. *Jean-Pierre De Villiers & John F. Hawley.* 592, 1060 (2003)

Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

Cataclysmic Variable Evolution with Circumbinary Disks. *Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus.* 592, 1124 (2003)

A Simplified Model for an Evolving Protoplanetary Nebula. *Sanford S. Davis.* 592, 1193 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

Viscosity-driven Winds from Magnetized Accretion Disks. *Daizo Maruta & Osamu Kaburaki.* 593, 85 (2003)

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

Surface Outflow in Optically Thick Dust Disks by Radiation Pressure. *Taku Takeuchi & D. N. C. Lin.* 593, 524 (2003)

Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

The Jet-Disk Connection and Blazar Unification. *Laura Maraschi & Fabrizio Tavecchio.* 593, 667 (2003)

Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

On the Enhanced X-Ray Emission from SGR 1900+14 after the August 27 Giant Flare. *Unal Ertan & M.A. Alpar.* 593, L93 (2003)

ASTROBIOLOGY

Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

ASTROCHEMISTRY

A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

[C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

Solar System Abundances and Condensation Temperatures of the Elements. *Katharina Lodders.* 591, 1220 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

ASTROMETRY

ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

ATOMIC DATA

Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

Recombination X-Ray Line Formation of Iron L-Shell Ions in Low Temperature Plasmas. *M. F. Gu.* 593, 1249 (2003)

ATOMIC PROCESSES

Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

BLACK HOLE PHYSICS

Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

Chandra X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Geometrically Thin Disk Accreting into a Black Hole. *N. Afshordi & B. Paczyński.* 592, 354 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

Global General Relativistic Magnetohydrodynamic Simulations of Accretion Tori. *Jean-Pierre De Villiers & John F. Hawley.* 592, 1060 (2003)

Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

The Need for a Second Black Hole at the Galactic Center. *Brad M. S. Hansen & Miloš Milosavljević.* 593, L77 (2003)

CATALOGS

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

CELESTIAL MECHANICS

The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

Successive Refinements in Long-Term Integrations of Planetary Orbits. *F. Varadi, B. Runnegar, & M. Ghil.* 592, 620 (2003)

Secular Evolution of Hierarchical Planetary Systems. *Man Hoi Lee & S. J. Peale.* 592, 1201 (2003)

Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

Extrasolar Planets in Mean-Motion Resonance: Apses Alignment and Asymmetric Stationary Solutions. *C. Beaugé, S. Ferraz-Mello, & T. A. Michtchenko.* 593, 1124 (2003)

COMETS: GENERAL

Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

COMETS: INDIVIDUAL

Alphanumeric: C/2002 A1

Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

Alphanumeric: C/2002 A2

Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

CONVECTION

Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

COSMOLOGY: COSMIC MICROWAVE BACKGROUND

The Universe Was Reionized Twice. *Renyue Cen.* 591, 12 (2003)

The Implications of *Wilkinson Microwave Anisotropy Probe* Observations for Population III Star Formation Processes. *Renyue Cen.* 591, L5 (2003)

Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager. *B. S. Mason, T. J. Pearson, A. C. S. Readhead, M. C. Shepherd, J. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 540 (2003)

The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager. *T. J. Pearson, B. S. Mason, A. C. S. Readhead, M. C. Shepherd, J. L. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U.-L. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 556 (2003)

A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager. *S. T. Myers, C. R. Contaldi, J. R. Bond, U.-L. Pen, D. Pogosyan, S. Prunet, J. L. Sievers, B. S. Mason, T. J. Pearson, A. C. S. Readhead, & M. C. Shepherd.* 591, 575 (2003)

Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA. *J. L. Sievers, J. R. Bond, J. K. Cartwright, C. R. Contaldi, B. S. Mason, S. T. Myers, S. Padin, T. J. Pearson, U.-L. Pen, D. Pogosyan, S. Prunet, A. C. S. Readhead, M. C. Shepherd, P. S. Udomprasert, L. Bronfman, W. L. Holzapfel, & J. May.* 591, 599 (2003)

Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies. *B. A. Benson, S. E. Church, P. A. R. Ade, J. J. Bock, K. M. Ganga, J. R. Hinderks, P. D. Mauskopf, B. Philhour, M. C. Runyan, & K. L. Thompson.* 592, 674 (2003)

Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

Wavelet Band Powers of the Primordial Power Spectrum from Cosmic Microwave Background Data. *Pia Mukherjee & Yun Wang.* 593, 38 (2003)

COSMOLOGY: COSMOLOGICAL PARAMETERS

The Implications of *Wilkinson Microwave Anisotropy Probe* Observations for Population III Star Formation Processes. *Renyue Cen.* 591, L5 (2003)

Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

Relativistic Cosmology Number Counts and the Luminosity Function. *Marcelo B. Ribeiro & William R. Stoeger.* 592, 1 (2003)

The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

COSMOLOGY: DARK MATTER

Modeling the Void H I Column Density Spectrum with Subgalactic Halos. *Curtis V. Manning.* 591, 79 (2003)

Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis. *T. Sumi, F. Abe, I. A. Bond, R. J. Dodd, J. B. Hearnshaw, M. Honda, M. Honma, Y. Kan-ya, P. M. Kilmartin, K. Masuda, Y. Matsubara, Y. Muraki, T. Nakamura, R. Nishi, S. Noda, K. Ohnishi, O. K. L. Petterson, N. J. Rattenbury, M. Reid, To. Saito, Y. Saito, H. Sato, M. Sekiguchi, J. Skuljan, D. J. Sullivan, M. Takeuti, P. J. Tristram, S. Wilkinson, T. Yanagisawa, & P. C. M. Yock.* 591, 204 (2003)

Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida. Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

Direct Mapping of Massive Compact Objects in Extragalactic Dark Halos. *Kaiki Taro Inoue & Masashi Chiba.* 591, L83 (2003)

Unstable Cold Dark Matter and the Cuspy Halo Problem in Dwarf Galaxies. *F. J. Sánchez-Salcedo.* 591, L107 (2003)

Lensing Optical Depths for Substructure and Isolated Dark Matter Halos. *Jacqueline Chen, Andrey V. Kravtsov, & Charles R. Keeton.* 592, 24 (2003)

Stellar Contribution to the Galactic Bulge Microlensing Optical Depth. *Cheongho Han & Andrew Gould.* 592, 172 (2003)

Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

COSMOLOGY: DIFFUSE RADIATION

Has the Optical Extragalactic Background Light Been Detected? *K. Mattila.* 591, 119 (2003)

Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

COSMOLOGY: DISTANCE SCALE

SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

Prospects for the Determination of H_0 through Observation of Multiply Imaged Supernovae in Galaxy Cluster Fields. *Adam S. Bolton & Scott Burles.* 592, 17 (2003)

A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

COSMOLOGY: EARLY UNIVERSE

Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

COSMOLOGY: LARGE-SCALE STRUCTURE OF UNIVERSE

Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

Eccentricity Evolution in Simulated Galaxy Clusters. *Stephan N. Floor, Adrian L. Melott, Christopher J. Miller, & Greg L. Bryan.* 591, 741 (2003)

Early Quintessence in Light of the *Wilkinson Microwave Anisotropy Probe*. *Robert R. Caldwell, Michael Doran, Christian M. Müller, Gregor Schäfer, & Christof Wetterich.* 591, L75 (2003)

Phase Correlations in Non-Gaussian Fields. *Takahiko Matsubara.* 591, L79 (2003)

Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies. *B. A. Benson, S. E. Church, P. A. R. Ade, J. J. Bock, K. M. Ganga, J. R. Hinderks, P. D. Mauskopf, B. Philhour, M. C. Runyan, & K. L. Thompson.* 592, 674 (2003)

Simulating Weak Lensing by Large-Scale Structure. *Chris Vale & Martin White.* 592, 699 (2003)

Tracing the Large-Scale Structure in the *Chandra* Deep Field South. *R. Gilli, A. Cimatti, E. Daddi, G. Hasinger, P. Rosati, G. Szokoly, P. Tozzi, J. Bergeron, S. Borgani, R. Giacconi, L. Kewley, V. Mainieri, M. Mignoli, M. Nonino, C. Norman, J. Wang, G. Zamorani, W. Zheng, & A. Zirm.* 592, 721 (2003)

The Halo Occupation Distribution and the Physics of Galaxy Formation. *Andreas A. Berlind, David H. Weinberg, Andrew J. Benson, Carlton M. Baugh, Shaun Cole, Romeel Davé, Carlos S. Frenk, Adrian Jenkins, Neal Katz, & Cedric G. Lacey.* 593, 1 (2003)

Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

Galaxy Bias in Quintessence Cosmological Models. *S. Basilakos & M. Plionis.* 593, L61 (2003)

COSMOLOGY: MISCELLANEOUS

The Redshift and the Host Galaxy of GRB 980613: A Gammay-Ray Burst from a Merger-induced Starburst? *S. G. Djorgovski, J. S. Bloom, & S. R. Kulkarni.* 591, L13 (2003)

Gamma-Ray Bursts as X-Ray Depth Gauges of the Universe. *P. Mészáros & M. J. Rees.* 591, L91 (2003)

COSMOLOGY: OBSERVATIONS

Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

The Redshift and the Host Galaxy of GRB 980613: A Gammay-Ray Burst from a Merger-induced Starburst? *S. G. Djorgovski, J. S. Bloom, & S. R. Kulkarni.* 591, L13 (2003)

The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observatons with the Cosmic Background Imager. *B. S. Mason, T. J. Pearson, A. C. S. Readhead, M. C. Shepherd, J. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 540 (2003)

The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager. *T. J. Pearson, B. S. Mason, A. C. S. Readhead, M. C. Shepherd, J. L. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U.-L. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 556 (2003)

Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA. *J. L. Sievers, J. R. Bond, J. K. Cartwright, C. R. Contaldi, B. S. Mason, S. T. Myers, S. Padin, T. J. Pearson, U.-L. Pen, D. Pogosyan, S. Prunet, A. C. S. Readhead, M. C. Shepherd, P. S. Udomprasert, L. Bronfman, W. L. Holzapfel, & J. May.* 591, 599 (2003)

High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey. *A. S. Cohen, H. J. A. Roettgering, N. E. Kassim, W. D. Cotton, R. A. Perley, R. Wilman, P. Best, M. Pierre, M. Birkinshaw, M. Bremer, & A. Zanichelli.* 591, 640 (2003)

Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies. *B. A. Benson, S. E. Church, P. A. R. Ade, J. J. Bock, K. M. Ganga, J. R. Hinderks, P. D. Mauskopf, B. Philhour, M. C. Runyan, & K. L. Thompson.* 592, 674 (2003)

Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

On the Assembly History of Early-Type Galaxies in the Hubble Deep Field–North. *Pieter van Dokkum & Richard S. Ellis.* 592, L53 (2003)

Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

COSMOLOGY: THEORY

Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

The Universe Was Reionized Twice. *Renyue Cen.* 591, 12 (2003)

Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

Phase Correlations in Non-Gaussian Fields. *Takahiko Matsubara.* 591, L79 (2003)

Relativistic Cosmology Number Counts and the Luminosity Function. *Marcelo B. Ribeiro & William R. Stoeger.* 592, 1 (2003)

Lensing Optical Depths for Substructure and Isolated Dark Matter Halos. *Jacqueline Chen, Andrey V. Kravtsov, & Charles R. Keeton.* 592, 24 (2003)

Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

Simulating Weak Lensing by Large-Scale Structure. *Chris Vale & Martin White.* 592, 699 (2003)

The Halo Occupation Distribution and the Physics of Galaxy Formation. *Andreas A. Berlind, David H. Weinberg, Andrew J. Benson, Carlton M. Baugh, Shaun Cole, Romeel Davé, Carlos S. Frenk, Adrian Jenkins, Neal Katz, & Cedric G. Lacey.* 593, 1 (2003)

On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

Wavelet Band Powers of the Primordial Power Spectrum from Cosmic Microwave Background Data. *Pia Mukherjee & Yun Wang.* 593, 38 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

Star Formation at the Twilight of the Dark Ages: Which Stars Reionized the Universe? *Rachel S. Somerville & Mario Livio.* 593, 611 (2003)

The Epoch of Reionization in Models with Reduced Small-Scale Power. *Rachel S. Somerville, James S. Bullock, & Mario Livio.* 593, 616 (2003)

Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

Galaxy Bias in Quintessence Cosmological Models. *S. Basilakos & M. Plionis.* 593, L61 (2003)

DENSE MATTER

Low-Mass Neutron Stars and the Equation of State of Dense Matter. *J. Carriere, C. J. Horowitz, & J. Piekarewicz.* 593, 463 (2003)

DIFFUSION

Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

EARLY UNIVERSE

Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

ECLIPSES

On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

EQUATION OF STATE

The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

Low-Mass Neutron Stars and the Equation of State of Dense Matter. *J. Carriere, C. J. Horowitz, & J. Piekarewicz.* 593, 463 (2003)

The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

ERRATA, ADDENDA

On a Mechanism for Enhancing Magnetic Activity in Tidally Interacting Binaries: Erratum (ApJ, 579, 810 [2002]). *T. Zaqarashvili, G. Javakhishvili, & G. Belvedere.* 591, 498 (2003) (Orig. paper in 579, 810 (2002))

Accurate Laboratory Wavelengths of the Vacuum Ultraviolet $A(v' = 3)$–$X(v'' = 0)$ Band of $^{12}C^{17}O$ and $^{12}C^{18}O$: Erratum (ApJ, 590, L123 [2003]). *Christine M. Steinmann, Erich G. Rohwer, & Herbert Stafast.* 591, L167 (2003) (Orig. paper in 590, L123 (2003))

The Transformation of Galaxies within the Large-Scale Structure around a $z = 0.41$ Cluster: Erratum (ApJ, 562, L9 [2001]). *T. Kodama, Ian Smail, F. Nakata, S. Okamura, & R. G. Bower.* 591, L169 (2003) (Orig. paper in 562, L9 (2001))

Surveys for $z > 3$ Damped Lyα Absorption Systems: The Evolution of Neutral Gas: Erratum (ApJ, 543, 552 [2000]). *Lisa J. Storrie-Lombardi & Arthur M. Wolfe.* 592, 1263 (2003) (Orig. paper in 543, 552 (2000))

Ultraviolet Continuum, Physical Conditions and Filling Factor in Active Galactic Nuclei: Erratum (ApJ, 587, 562 [2003]). *Lucimara P. Martins, Sueli M. Viegas, & Ruth Gruenwald.* 592, 1264 (2003) (Orig. paper in 587, 562 (2003))

Analysis of the Temperature and Emission Measure of Solar Coronal Arcades and Test of a Scaling Law of Flare/Arcade Loop Length: Erratum (ApJ, 579, L45 [2002]). *Tetsuya T. Yamamoto, Daikou Shiota, Takuma Sakajiri, Sachiko Akiyama, Hiroaki Isobe, & Kazunari Shibata.* 592, L107 (2003) (Orig. paper in 579, L45 (2002))

Optically Thick Gyrosynchrotron Emission from Anisotropic Electron Distributions: Erratum (ApJ, 584, 1071 [2003]). *G. D. Fleishman & V. F. Melnikov.* 593, 597 (2003) (Orig. paper in 584, 1071 (2003))

Gyrosynchrotron Emission from Anisotropic Electron Distributions: Erratum (ApJ, 587, 823 [2003]). *G. D. Fleishman & V. F. Melnikov.* 593, 598 (2003) (Orig. paper in 587, 823 (2003))

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Galaxy and the Galactic Bulge: Erratum (ApJ, 592, L21 [2003]). *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 593, L145 (2003) (Orig. paper in 592, L21 (2003))

Fixed Delay Interferometry for Doppler Extrasolar Planet Detection: Erratum (ApJ, 571, L165 [2002]). *Jian Ge.* 593, L147 (2003) (Orig. paper in 571, L165 (2002))

EXTRATERRESTRIAL INTELLIGENCE

Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

GALAXIES: ABUNDANCES

The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W.*

Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler. 592, 906 (2003)

Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

GALAXIES: ACTIVE

The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

Chandra X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

XMM-Newton Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469. *Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond.* 592, 804 (2003)

Simulations of Buoyant Bubbles in Galaxy Clusters. *M. Brüggen.* 592, 839 (2003)

Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies. *A. Markowitz, R. Edelson, S. Vaughan, P. Uttley, I. M. George, R. E. Griffiths, S. Kaspi, A. Lawrence, I. McHardy, K. Nandra, K. Pounds, J. Reeves, N. Schurch, & R. Warwick.* 593, 96 (2003)

Emission-Line Diagnostics of the Central Engines of Weak-Line Radio Galaxies. *Karen T. Lewis, Michael Eracleous, & Rita M. Sambruna.* 593, 115 (2003)

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

BeppoSAX Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature. *P. Grandi, M. Fiocchi, C. G. Perola, C. M. Urry, L. Maraschi, E. Massaro, G. Matt, A. Preite-Martinez, H. Steinle, & W. Collmar.* 593, 160 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

Equilibrium Models of Galaxy Clusters with Cooling, Heating, and Conduction. *M. Brüggen.* 593, 700 (2003)

A Massive X-Ray Outflow from the Quasar PDS 456. *J. N. Reeves, P. T. O'Brien, & M. J. Ward.* 593, L65 (2003)

Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

GALAXIES: BL LACERTAE OBJECTS: GENERAL

The Jet-Disk Connection and Blazar Unification. *Laura Maraschi & Fabrizio Tavecchio.* 593, 667 (2003)

GALAXIES: CLUSTERS: GENERAL

Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey. *A. S. Cohen, H. J. A. Roettgering, N. E. Kassim, W. D. Cotton, R. A. Perley, R. Wilman, P. Best, M. Pierre, M. Birkinshaw, M. Bremer, & A. Zanichelli.* 591, 640 (2003)

Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

Eccentricity Evolution in Simulated Galaxy Clusters. *Stephan N. Floor, Adrian L. Melott, Christopher J. Miller, & Greg L. Bryan.* 591, 741 (2003)

Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Direct Mapping of Massive Compact Objects in Extragalactic Dark Halos. *Kaiki Taro Inoue & Masashi Chiba.* 591, L83 (2003)

Prospects for the Determination of H_0 through Observation of Multiply Imaged Supernovae in Galaxy Cluster Fields. *Adam S. Bolton & Scott Burles.* 592, 17 (2003)

SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

The Multiphase Intracluster Medium in Galaxy Groups Probed by the Lyα Forest. *Hu Zhan, Li-Zhi Fang, & David Burstein.* 592, L1 (2003)

Peculiar Velocity Limits from Measurements of the Spectrum of the Sunyaev-Zeldovich Effect in Six Clusters of Galaxies. *B. A. Benson, S. E. Church, P. A. R. Ade, J. J. Bock, K. M. Ganga, J. R. Hinderks, P. D. Mauskopf, B. Philhour, M. C. Runyan, & K. L. Thompson.* 592, 674 (2003)

Tracing the Large-Scale Structure in the *Chandra* Deep Field South. *R. Gilli, A. Cimatti, E. Daddi, G. Hasinger, P. Rosati, G. Szokoly, P. Tozzi, J. Bergeron, S. Borgani, R. Giacconi, L. Kewley, V. Mainieri, M. Mignoli, M. Nonino, C. Norman, J. Wang, G. Zamorani, W. Zheng, & A. Zirm.* 592, 721 (2003)

Simulations of Buoyant Bubbles in Galaxy Clusters. *M. Brüggen.* 592, 839 (2003)

The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

Equilibrium Models of Galaxy Clusters with Cooling, Heating, and Conduction. *M. Brüggen.* 593, 700 (2003)

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

GALAXIES: CLUSTERS: INDIVIDUAL

Name: Virgo

Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

Alphanumeric: A85

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Alphanumeric: A496

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Alphanumeric: A754

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Alphanumeric: A1060

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Alphanumeric: A1631

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Alphanumeric: A1795

SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

Alphanumeric: A2034

Chandra Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

Alphanumeric: A3266

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Alphanumeric: Cl 0024+1654

A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

GALAXIES: COOLING FLOWS

SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

Simulations of Buoyant Bubbles in Galaxy Clusters. *M. Brüggen.* 592, 839 (2003)

Chandra Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

Equilibrium Models of Galaxy Clusters with Cooling, Heating, and Conduction. *M. Brüggen.* 593, 700 (2003)

GALAXIES: DISTANCES AND REDSHIFTS

SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329. *K. Z. Stanek, T. Matheson, P. M. Garnavich, P. Martini, P. Berlind, N. Caldwell, P. Challis, W. R. Brown, R. Schild, K. Krisciunas, M. L. Calkins, J. C. Lee, N. Hathi, R. A. Jansen, R. Windhorst, L. Echevarria, D. J. Eisenstein, B. Pindor, E. W. Olszewski, P. Harding, S. T. Holland, & D. Bersier.* 591, L17 (2003)

High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$. *F. Poli, E. Giallongo, A. Fontana, N. Menci, G. Zamorani, M. Nonino, P. Saracco, E. Vanzella, I. Donnarumma, S. Salimbeni, A. Cimatti, S. Cristiani, E. Daddi, S. D'Odorico, M. Mignoli, L. Pozzetti, & A. Renzini.* 593, L1 (2003)

Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

GALAXIES: DWARF

Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Parametric Dwarf Spheroidal Tidal Interaction. *Jean-Julien Fleck & J. R. Kuhn.* 592, 147 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

GALAXIES: ELLIPTICAL AND LENTICULAR, CD

Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

On the Size Difference between Red and Blue Globular Clusters. *Soren S. Larsen & Jean P. Brodie.* 593, 340 (2003)

GALAXIES: EVOLUTION

Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$. *Youichi Ohyama, Yoshiaki Taniguchi, Koji S. Kawabata, Yasuhiro Shioya, Takashi Murayama, Tohru Nagao, Tadafumi Takata, Masanori Iye, & Michitoshi Yoshida.* 591, L9 (2003)

High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

Age and Abundance Discrimination in Old Stellar Populations Using Mid-Ultraviolet Colors. *Ben Dorman, Robert W. O'Connell, & Robert T. Rood.* 591, 878 (2003)

Large Disklike Galaxies at High Redshift. *Ivo Labbé, Gregory Rudnick, Marijn Franx, Emanuele Daddi, Pieter G. van Dokkum, Natascha M. Förster Schreiber, Konrad Kuijken, Alan Moorwood, Hans-Walter Rix,*

Huub Röttgering, Ignacio Trujillo, Arjen van der Wel, Paul van der Werf, & Lottie van Starkenburg. 591, L95 (2003)

Relativistic Cosmology Number Counts and the Luminosity Function. *Marcelo B. Ribeiro & William R. Stoeger.* 592, 1 (2003)

Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

On the Assembly History of Early-Type Galaxies in the Hubble Deep Field–North. *Pieter van Dokkum & Richard S. Ellis.* 592, L53 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

C II* Absorption in Damped Lyα Systems. I. Star Formation Rates in a Two-Phased Medium. *Arthur M. Wolfe, Jason X. Prochaska, & Eric Gawiser.* 593, 215 (2003)

C II* Absorption in Damped Lyα Systems. I. A New Window on the Star Formation History of the Universe. *Arthur M. Wolfe, Eric Gawiser, & Jason X. Prochaska.* 593, 235 (2003)

Constraints on a Universal Initial Mass Function from Ultraviolet to Near-Infrared Galaxy Luminosity Densities. *Ivan K. Baldry & Karl Glazebrook.* 593, 258 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

Star Formation at the Twilight of the Dark Ages: Which Stars Reionized the Universe? *Rachel S. Somerville & Mario Livio.* 593, 611 (2003)

The Epoch of Reionization in Models with Reduced Small-Scale Power. *Rachel S. Somerville, James S. Bullock, & Mario Livio.* 593, 616 (2003)

Constraints on the Equation of State of Dark Energy and the Hubble Constant from Stellar Ages and the Cosmic Microwave Background. *Raul Jimenez, Licia Verde, Tommaso Treu, & Daniel Stern.* 593, 622 (2003)

Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

Discovery of Eight New Extremely Metal-Poor Galaxies in the Sloan Digital Sky Survey. *Alexei Y. Kniazev, Eva K. Grebel, Lei Hao, Michael A. Strauss, Jonathan Brinkmann, & Masataka Fukugita.* 593, L73 (2003)

GALAXIES: FORMATION

Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$. *Youichi Ohyama, Yoshiaki Taniguchi, Koji S. Kawabata, Yasuhiro Shioya, Takashi Murayama, Tohru Nagao, Tadafumi Takata, Masanori Iye, & Michitoshi Yoshida.* 591, L9 (2003)

Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

High-Redshift Candidates and the Nature of Small Galaxies in the Hubble Deep Field. *Lisa J. Storrie-Lombardi, Ray J. Weymann, & Rodger I. Thompson.* 591, 623 (2003)

Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies. *Michiel Reuland, Wil van Breugel, Huub Röttgering, Wim de Vries, S. A. Stanford, Arjun Dey, Mark Lacy, Joss Bland-Hawthorn, Michael Dopita, & George Miley.* 592, 755 (2003)

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

On the Assembly History of Early-Type Galaxies in the Hubble Deep Field–North. *Pieter van Dokkum & Richard S. Ellis.* 592, L53 (2003)

An Upper Limit on the Granularity of the Local Stellar Halo. *Andrew Gould.* 592, L63 (2003)

On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

The Evolution of the Galaxy Luminosity Function in the Rest-Frame Blue Band up to $z = 3.5$. *F. Poli, E. Giallongo, A. Fontana, N. Menci, G. Zamorani, M. Nonino, P. Saracco, E. Vanzella, I. Donnarumma, S. Salimbeni, A. Cimatti, S. Cristiani, E. Daddi, S. D'Odorico, M. Mignoli, L. Pozzetti, & A. Renzini.* 593, L1 (2003)

Luminous Lyman Break Galaxies at $z > 5$ and the Source of Reionization. *Matthew D. Lehnert & Malcolm Bremer.* 593, 630 (2003)

GALAXIES: FUNDAMENTAL PARAMETERS

A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

GALAXIES: GENERAL

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

GALAXIES: HALOS

Modeling the Void H I Column Density Spectrum with Subgalactic Halos. *Curtis V. Manning.* 591, 79 (2003)

Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

Unstable Cold Dark Matter and the Cuspy Halo Problem in Dwarf Galaxies. *F. J. Sánchez-Salcedo.* 591, L107 (2003)

Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

The Halo Occupation Distribution and the Physics of Galaxy Formation. *Andreas A. Berlind, David H. Weinberg, Andrew J. Benson, Carlton M. Baugh, Shaun Cole, Romeel Davé, Carlos S. Frenk, Adrian Jenkins, Neal Katz, & Cedric G. Lacey.* 593, 1 (2003)

On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

High-Latitude H I in the Low Surface Brightness Galaxy UGC 7321. *L. D. Matthews & Kenneth Wood.* 593, 721 (2003)

GALAXIES: HIGH-REDSHIFT

A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

The Implications of *Wilkinson Microwave Anisotropy Probe* Observations for Population III Star Formation Processes. *Renyue Cen.* 591, L5 (2003)

Large Disklike Galaxies at High Redshift. *Ivo Labbé, Gregory Rudnick, Marijn Franx, Emanuele Daddi, Pieter G. van Dokkum, Natascha M. Förster Schreiber, Konrad Kuijken, Alan Moorwood, Hans-Walter Rix, Huub Röttgering, Ignacio Trujillo, Arjen van der Wel, Paul van der Werf, & Lottie van Starkenburg.* 591, L95 (2003)

Tracing the Large-Scale Structure in the *Chandra* Deep Field South. *R. Gilli, A. Cimatti, E. Daddi, G. Hasinger, P. Rosati, G. Szokoly, P. Tozzi, J. Bergeron, S. Borgani, R. Giacconi, L. Kewley, V. Mainieri, M. Mignoli, M. Nonino, C. Norman, J. Wang, G. Zamorani, W. Zheng, & A. Zirm.* 592, 721 (2003)

Lyman Break Galaxies at Redshift $z \sim 3$: Survey Description and Full Data Set. *Charles C. Steidel, Kurt L. Adelberger, Alice E. Shapley, Max Pettini, Mark Dickenson, & Mauro Giavalisco.* 592, 728 (2003)

Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies. *Michiel Reuland, Wil van Breugel, Huub Röttgering, Wim de Vries, S. A. Stanford, Arjun Dey, Mark Lacy, Joss Bland-Hawthorn, Michael Dopita, & George Miley.* 592, 755 (2003)

Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

GALAXIES: INDIVIDUAL

Messier Number: M31

Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

Messier Number: M33

Infrared Space Observatory Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

Messier Number: M49

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

Messier Number: M51

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Messier Number: M74

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

Messier Number: M82

QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

Messier Number: M83

Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Messier Number: M87

Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

Messier Number: M100

SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

Messier Number: M101

The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

NGC Number: NGC 628

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

NGC Number: NGC 891

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

NGC Number: NGC 1068

A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

NGC Number: NGC 1448

Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova. *Lifan Wang, Dietrich Baade, Peter Höflich, Alexei Khokhlov, J. Craig Wheeler, D. Kasen, Peter E. Nugent, Saul Perlmutter, Claes Fransson, & Peter Lundqvist.* 591, 1110 (2003)

NGC Number: NGC 1569

Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

NGC Number: NGC 3368

The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

NGC Number: NGC 3379

The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

NGC Number: NGC 3384

The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

NGC Number: NGC 4038/4039

A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

NGC Number: NGC 4303

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

NGC Number: NGC 4418

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

NGC Number: NGC 4472

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

NGC Number: NGC 4486

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

NGC Number: NGC 4491

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

NGC Number: NGC 4593

The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

NGC Number: NGC 4631

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

NGC Number: NGC 4697

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

NGC Number: NGC 5033

Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

NGC Number: NGC 5128

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

NGC Number: NGC 5236

Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

NGC Number: NGC 5457

The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

NGC Number: NGC 5905

Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

Name: Arp 220

Chandra Observations of Extended X-Ray Emission in Arp 220. *J. C. McDowell, D. L. Clements, S. A. Lamb, S. Shaked, N. C. Hearn, L. Colina, C. Mundell, K. Borne, A. C. Baker, & S. Arribas.* 591, 154 (2003)

Name: Centaurus A

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

BeppoSAX Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature. *P. Grandi, M. Fiocchi, C. G. Perola, C. M. Urry, L. Maraschi, E. Massaro, G. Matt, A. Preite-Martinez, H. Steinle, & W. Collmar.* 593, 160 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

Name: Hydra A

Equilibrium Models of Galaxy Clusters with Cooling, Heating, and Conduction. *M. Brüggen.* 593, 700 (2003)

Name: Sagittarius Dwarf Spheroidal

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Alphanumeric: 3C 293

Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

Alphanumeric: DDO 210

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Alphanumeric: DDO 216

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Alphanumeric: GR 8

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Alphanumeric: IC 342

Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

Alphanumeric: IC 1953

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

Alphanumeric: IRAS 17208−0014

INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

Alphanumeric: MCG −5-23-16

XMM-Newton Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

Alphanumeric: RX J1242.6−1119

Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

Alphanumeric: RX J1624.9+7554

Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

Alphanumeric: SBS 0335−052

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

Alphanumeric: UGC 7321

High-Latitude H I in the Low Surface Brightness Galaxy UGC 7321. *L. D. Matthews & Kenneth Wood.* 593, 721 (2003)

Alphanumeric: UGCA 292

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Alphanumeric: I Zw 18

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

GALAXIES: INTERACTIONS

Chandra Observations of Extended X-Ray Emission in Arp 220. *J. C. McDowell, D. L. Clements, S. A. Lamb, S. Shaked, N. C. Hearn, L. Colina, C. Mundell, K. Borne, A. C. Baker, & S. Arribas.* 591, 154 (2003)

INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

GALAXIES: INTERGALACTIC MEDIUM

The Universe Was Reionized Twice. *Renyue Cen.* 591, 12 (2003)

Modeling the Void H I Column Density Spectrum with Subgalactic Halos. *Curtis V. Manning.* 591, 79 (2003)

Probing the Size of Low-Redshift Lyα Absorbers. *Jessica L. Rosenberg, Rajib Ganguly, Mark L. Giroux, & John T. Stocke.* 591, 677 (2003)

SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

The Multiphase Intracluster Medium in Galaxy Groups Probed by the Lyα Forest. *Hu Zhan, Li-Zhi Fang, & David Burstein.* 592, L1 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

Chandra Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

Star Formation at the Twilight of the Dark Ages: Which Stars Reionized the Universe? *Rachel S. Somerville & Mario Livio.* 593, 611 (2003)

The Epoch of Reionization in Models with Reduced Small-Scale Power. *Rachel S. Somerville, James S. Bullock, & Mario Livio.* 593, 616 (2003)

GALAXIES: ISM

Galaxy Populations and Evolution in Clusters. IV. Deep H I Observations of Dwarf Elliptical Galaxies in the Virgo Cluster. *Christopher J. Conselice, Karen O'Neil, John S. Gallagher, & Rosemary F. G. Wyse.* 591, 167 (2003)

The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Infrared Space Observatory Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

High-Latitude H I in the Low Surface Brightness Galaxy UGC 7321. *L. D. Matthews & Kenneth Wood.* 593, 721 (2003)

GALAXIES: JETS

The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

A Relativistic Jet in the Radio-quiet Quasar PG 1407+263. *Katherine M. Blundell, Anthony J. Beasley, & Geoffrey V. Bicknell.* 591, L103 (2003)

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

Relativistic Acceleration of Magnetically Driven Jets. *Akira Tomimatsu & Masaaki Takahashi.* 592, 321 (2003)

Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

Viscosity-driven Winds from Magnetized Accretion Disks. *Daizo Maruta & Osamu Kaburaki.* 593, 85 (2003)

The Jet-Disk Connection and Blazar Unification. *Laura Maraschi & Fabrizio Tavecchio.* 593, 667 (2003)

GALAXIES: KINEMATICS AND DYNAMICS

Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

Unstable Cold Dark Matter and the Cuspy Halo Problem in Dwarf Galaxies. *F. J. Sánchez-Salcedo.* 591, L107 (2003)

Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Parametric Dwarf Spheroidal Tidal Interaction. *Jean-Julien Fleck & J. R. Kuhn.* 592, 147 (2003)

GALAXIES: LOCAL GROUP

Parametric Dwarf Spheroidal Tidal Interaction. *Jean-Julien Fleck & J. R. Kuhn.* 592, 147 (2003)

GALAXIES: LUMINOSITY FUNCTION, MASS FUNCTION

Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

Galaxy Luminosity Functions from Deep Spectroscopic Samples of Rich Clusters. *Daniel Christlein & Ann I. Zabludoff.* 591, 764 (2003)

Relativistic Cosmology Number Counts and the Luminosity Function. *Marcelo B. Ribeiro & William R. Stoeger.* 592, 1 (2003)

The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$. *Michael R. Blanton, David W. Hogg, Neta A. Bahcall, J. Brinkmann, Malcolm Britton, Andrew J. Connolly, István Csabai, Masataka Fukugita, Jon Loveday, Avery Meiksin, Jeffrey A. Munn, R. C. Nichol, Sadanori Okamura, Thomas Quinn, Donald P. Schneider, Kazuhiro Shimasaku, Michael A. Strauss, Max Tegmark, Michael S. Vogeley, & David H. Weinberg.* 592, 819 (2003)

Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

GALAXIES: MAGELLANIC CLOUDS

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

GALAXIES: MAGNETIC FIELDS

PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics. *M. A. McLaughlin, I. H. Stairs, V. M. Kaspi, D. R. Lorimer, M. Kramer, A. G. Lyne, R. N. Manchester, F. Camilo, G. Hobbs, A. Possenti, N. D'Amico, & A. J. Faulkner.* 591, L135 (2003)

GALAXIES: NUCLEI

Formation of Supermassive Black Holes in Galactic Bulges: A Rotating Collapse Model Consistent with the M_{BH}-σ Relation. *Fred C. Adams, David S. Graff, Manasse Mbonye, & Douglas O. Richstone.* 591, 125 (2003)

The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

Molecular Gas and the Nuclear Star Cluster in IC 342: Sufficient Inflow for Recurring Star Formation Events? *Eva Schinnerer, Torsten Böker, & David S. Meier.* 591, L115 (2003)

Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

XMM-Newton Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

Viscosity-driven Winds from Magnetized Accretion Disks. *Daizo Maruta & Osamu Kaburaki.* 593, 85 (2003)

Emission-Line Diagnostics of the Central Engines of Weak-Line Radio Galaxies. *Karen T. Lewis, Michael Eracleous, & Rita M. Sambruna.* 593, 115 (2003)

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

The Jet-Disk Connection and Blazar Unification. *Laura Maraschi & Fabrizio Tavecchio.* 593, 667 (2003)

GALAXIES: PECULIAR

A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

GALAXIES: PHOTOMETRY

A Wide-Field *Hubble Space Telescope* Study of the Cluster Cl 0024+16 at $z = 0.4$. I. Morphological Distributions to 5 Mpc Radius. *Tommaso Treu, Richard S. Ellis, Jean-Paul Kneib, Alan Dressler, Ian Smail, Oliver Czoske, Augustus Oemler, & Priyamvada Natarajan.* 591, 53 (2003)

GALAXIES: QUASARS: ABSORPTION LINES

Modeling the Void H I Column Density Spectrum with Subgalactic Halos. *Curtis V. Manning.* 591, 79 (2003)

Probing the Size of Low-Redshift Lyα Absorbers. *Jessica L. Rosenberg, Rajib Ganguly, Mark L. Giroux, & John T. Stocke.* 591, 677 (2003)

The Multiphase Intracluster Medium in Galaxy Groups Probed by the Lyα Forest. *Hu Zhan, Li-Zhi Fang, & David Burstein.* 592, L1 (2003)

Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

C II* Absorption in Damped Lyα Systems. I. Star Formation Rates in a Two-Phased Medium. *Arthur M. Wolfe, Jason X. Prochaska, & Eric Gawiser.* 593, 215 (2003)

C II* Absorption in Damped Lyα Systems. I. A New Window on the Star Formation History of the Universe. *Arthur M. Wolfe, Eric Gawiser, & Jason X. Prochaska.* 593, 235 (2003)

GALAXIES: QUASARS: EMISSION LINES

QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies. *Michiel Reuland, Wil van Breugel, Huub Röttgering, Wim de Vries, S. A. Stanford, Arjun Dey, Mark Lacy, Joss Bland-Hawthorn, Michael Dopita, & George Miley.* 592, 755 (2003)

Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

GALAXIES: QUASARS: GENERAL

Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

Eddington Accretion and QSO Emission Lines at $z \sim 2$. *Michael Juntao Yuan & Beverley J. Wills.* 593, L11 (2003)

The Formation of Galaxy Stellar Cores by the Hierarchical Merging of Supermassive Black Holes. *Marta Volonteri, Piero Madau, & Francesco Haardt.* 593, 661 (2003)

Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

GALAXIES: QUASARS: INDIVIDUAL

Alphanumeric: 3C 279

The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

Alphanumeric: PDS 456

A Massive X-Ray Outflow from the Quasar PDS 456. *J. N. Reeves, P. T. O'Brien, & M. J. Ward.* 593, L65 (2003)

Alphanumeric: PG 1407+263

A Relativistic Jet in the Radio-quiet Quasar PG 1407+263. *Katherine M. Blundell, Anthony J. Beasley, & Geoffrey V. Bicknell.* 591, L103 (2003)

Alphanumeric: Q0957+561A,B

The Spatial, Ionization, and Kinematic Conditions of the $z = 1.39$ Damped Lyα Absorber in Q0957+561 A,B. *Christopher W. Churchill, Richard R. Mellon, Jane C. Charlton, & Steven S. Vogt.* 593, 203 (2003)

Alphanumeric: Q2345+007

Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

Alphanumeric: SDSS Q0300+0048

VLT+UVES Spectroscopy of the Ca II Low-Ionization Broad Absorption Line Quasar SDSS J030000.56+004828.0. *Patrick B. Hall, Damien Hutsmékers, Scott F. Anderson, J. Brinkmann, Xiaohui Fan, Donald P. Schneider, & Donald G. York.* 593, 189 (2003)

Alphanumeric: UM 425

Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar Pair UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

GALAXIES: SEYFERT

A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

XMM-Newton Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies. *A. Markowitz, R. Edelson, S. Vaughan, P. Uttley, I. M. George, R. E. Griffiths, S. Kaspi, A. Lawrence, I. McHardy, K. Nandra, K. Pounds, J. Reeves, N. Schurch, & R. Warwick.* 593, 96 (2003)

The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

GALAXIES: SPIRAL

The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

Unstable Cold Dark Matter and the Cuspy Halo Problem in Dwarf Galaxies. *F. J. Sánchez-Salcedo.* 591, L107 (2003)

Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

High-Latitude H I in the Low Surface Brightness Galaxy UGC 7321. *L. D. Matthews & Kenneth Wood.* 593, 721 (2003)

GALAXIES: STARBURST

A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

Chandra Observations of Extended X-Ray Emission in Arp 220. *J. C. McDowell, D. L. Clements, S. A. Lamb, S. Shaked, N. C. Hearn, L. Colina, C. Mundell, K. Borne, A. C. Baker, & S. Arribas.* 591, 154 (2003)

On the Origin of Lyα Blobs at High Redshift: Kinematic Evidence of a Hyperwind Galaxy at $z = 3.1$. *Youichi Ohyama, Yoshiaki Taniguchi, Koji S. Kawabata, Yasuhiro Shioya, Takashi Murayama, Tohru Nagao, Tadafumi Takata, Masanori Iye, & Michitoshi Yoshida.* 591, L9 (2003)

QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

INTEGRAL Spectroscopy of IRAS 17208−0014: Implications for the Evolutionary Scenarios of Ultraluminous Infrared Galaxies. *Santiago Arribas & Luis Colina.* 591, 791 (2003)

Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

Discovery of Bright Variable X-Ray Sources in NGC 569 with *Chandra*. *K. Heike, H. Awaki, Y. Misao, K. Hayashida, & K. A. Weaver.* 591, L99 (2003)

A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

GALAXIES: STAR CLUSTERS

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

The Ages and Abundances of a Sample of Globular Clusters in M49 (NGC 4472). *Judith G. Cohen, J. P. Blakeslee, & P. Côté.* 592, 866 (2003)

A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

On the Size Difference between Red and Blue Globular Clusters. *Soren S. Larsen & Jean P. Brodie.* 593, 340 (2003)

Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

GALAXIES: STATISTICS

The Galaxy Luminosity Function and Luminosity Density at Redshift $z = 0.1$. *Michael R. Blanton, David W. Hogg, Neta A. Bahcall, J. Brinkmann, Malcolm Britton, Andrew J. Connolly, István Csabai, Masataka Fukugita, Jon Loveday, Avery Meiksin, Jeffrey A. Munn, R. C. Nichol, Sadanori Okamura, Thomas Quinn, Donald P. Schneider, Kazuhiro Shimasaku, Michael A. Strauss, Max Tegmark, Michael S. Vogeley, & David H. Weinberg.* 592, 819 (2003)

GALAXIES: STELLAR CONTENT

Age and Abundance Discrimination in Old Stellar Populations Using Mid-Ultraviolet Colors. *Ben Dorman, Robert W. O'Connell, & Robert T. Rood.* 591, 878 (2003)

Evidence of a Significant Intermediate-Age Population in the M31 Halo from Main-Sequence Photometry. *Thomas M. Brown, Henry C. Ferguson, Ed Smith, Randy A. Kimble, Allen V. Sweigart, Alvio Renzini, R. Michael Rich, & Don A. VandenBerg.* 592, L17 (2003)

GALAXIES: STRUCTURE

The Leo I Cloud: Secular Nuclear Evolution of NGC 3379, NGC 3384, and NGC 3368? *O. K. Sil'chenko, A. V. Moiseev, V. L. Afanasiev, V. H. Chavushyan, & J. R. Valdes.* 591, 185 (2003)

Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

Extraplanar Emission-Line Gas in Edge-on Spiral Galaxies. II. Optical Spectroscopy. *Scott T. Miller & Sylvain Veilleux.* 592, 79 (2003)

On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

Mass-to-Light Ratios of 2dF Galaxies. *Tereasa G. Brainerd & Michael A. Specian.* 593, L7 (2003)

Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

GALAXY: ABUNDANCES

Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J.*

Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz. 591, 936 (2003)

GALAXY: BULGE

Stellar Contribution to the Galactic Bulge Microlensing Optical Depth. *Cheongho Han & Andrew Gould.* 592, 172 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

GALAXY: CENTER

Chandra X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

The Need for a Second Black Hole at the Galactic Center. *Brad M. S. Hansen & Miloš Milosavljević.* 593, L77 (2003)

GALAXY: DISK

On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

GALAXY: EVOLUTION

Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J. Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz.* 591, 936 (2003)

Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

GALAXY: FORMATION

On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

The Halo Occupation Distribution and the Physics of Galaxy Formation. *Andreas A. Berlind, David H. Weinberg, Andrew J. Benson, Carlton M. Baugh, Shaun Cole, Romeel Davé, Carlos S. Frenk, Adrian Jenkins, Neal Katz, & Cedric G. Lacey.* 593, 1 (2003)

GALAXY: GLOBULAR CLUSTERS: GENERAL

Dynamics of the Globular Cluster System Associated with M49 (NGC 4472): Cluster Orbital Properties and the Distribution of Dark Matter. *Patrick Côté, Dean E. McLaughlin, Judith G. Cohen, & John P. Blakeslee.* 591, 850 (2003)

Dynamical Formation of Close Binary Systems in Globular Clusters. *David Pooley, Walter H. G. Lewin, Scott F. Anderson, Holger Baumgardt, Alexei V. Filippenko, Bryan M. Gaensler, Lee Homer, Piet Hut, Victoria M. Kaspi, Junichiro Makino, Bruce Margon, Steve McMillan, Simon Portegies Zwart, Michiel van der Klis, & Frank Verbunt.* 591, L131 (2003)

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

On the Size Difference between Red and Blue Globular Clusters. *Soren S. Larsen & Jean P. Brodie.* 593, 340 (2003)

Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

Modeling the Dynamical Evolution of the M87 Globular Cluster System. *E. Vesperini, S. E. Zepf, A. Kundu, & K. M. Ashman.* 593, 760 (2003)

Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

GALAXY: GLOBULAR CLUSTERS: INDIVIDUAL

NGC Number: NGC 5139

ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

Name: Arches

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

Name: ω Centauri

A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

Name: Quintuplet

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

GALAXY: HALO

Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis. *T. Sumi, F. Abe, I. A. Bond, R. J. Dodd, J. B. Hearnshaw, M. Honda, M. Honma, Y. Kan-ya, P. M. Kilmartin, K. Masuda, Y. Matsubara, Y. Muraki, T. Nakamura, R. Nishi, S. Noda, K. Ohnishi, O. K. L. Petterson, N. J. Rattenbury, M. Reid, To. Saito, Y. Saito, H. Sato, M. Sekiguchi, J. Skuljan, D. J. Sullivan, M. Takeuti, P. J. Tristram, S. Wilkinson, T. Yanagisawa, & P. C. M. Yock.* 591, 204 (2003)

On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

High-Velocity Cloud Complex H: A Satellite of the Milky Way in a Retrograde Orbit? *Felix J. Lockman.* 591, L33 (2003)

The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J. Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz.* 591, 936 (2003)

Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

GALAXY: KINEMATICS AND DYNAMICS

The Need for a Second Black Hole at the Galactic Center. *Brad M. S. Hansen & Miloš Milosavljević.* 593, L77 (2003)

GALAXY: NUCLEUS

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

The Need for a Second Black Hole at the Galactic Center. *Brad M. S. Hansen & Miloš Milosavljević.* 593, L77 (2003)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: GENERAL

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: INDIVIDUAL

NGC Number: NGC 2244

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

NGC Number: NGC 2264

Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

NGC Number: NGC 6618

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

Name: TW Hydrae

Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

Name: σ Orionis

Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martin & M. R. Zapatero Osorio.* 593, L113 (2003)

Name: Perseus OB1

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

GALAXY: SOLAR NEIGHBORHOOD

Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows, James Liebert, I. Niell Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean.* 592, 1186 (2003)

GALAXY: STELLAR CONTENT

LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

GALAXY: STRUCTURE

High-Velocity Cloud Complex H: A Satellite of the Milky Way in a Retrograde Orbit? *Felix J. Lockman.* 591, L33 (2003)

On the Nature of the Ringlike Structure in the Outer Galactic Disk. *Amina Helmi, Julio F. Navarro, Andrés Meza, Matthias Steinmetz, & Vincent R. Eke.* 592, L25 (2003)

An Upper Limit on the Granularity of the Local Stellar Halo. *Andrew Gould.* 592, L63 (2003)

GAMMA RAYS: BURSTS

Delayed Flashes from Counterjets of Gamma-Ray Bursts. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 591, 283 (2003)

How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

The Redshift and the Host Galaxy of GRB 980613: A Gammay-Ray Burst from a Merger-induced Starburst? *S. G. Djorgovski, J. S. Bloom, & S. R. Kulkarni.* 591, L13 (2003)

Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329. *K. Z. Stanek, T. Matheson, P. M. Garnavich, P. Martini, P. Berlind, N. Caldwell, P. Challis, W. R. Brown, R. Schild, K. Krisciunas, M. L. Calkins, J. C. Lee, N. Hathi, R. A. Jansen, R. Windhorst, L. Echevarria, D. J. Eisenstein, B. Pindor, E. W. Olszewski, P. Harding, S. T. Holland, & D. Bersier.* 591, L17 (2003)

GRB 030226 in a Density-Jump Medium. *Z. G. Dai & X. F. Wu.* 591, L21 (2003)

The Evolution of a Structured Relativistic Jet and Gamma-Ray Burst Afterglow Light Curves. *Pawan Kumar & Jonathan Granot.* 591, 1075 (2003)

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

Dirty Fireballs and Orphan Afterglows: A Tale of Two Transients. *James E. Rhoads.* 591, 1097 (2003)

Neutrinos from the Propagation of a Relativistic Jet through a Star. *Jason Pruet.* 591, 1104 (2003)

Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

Gamma-Ray Bursts as X-Ray Depth Gauges of the Universe. *P. Mészáros & M. J. Rees.* 591, L91 (2003)

External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

The Synoptic *Swift* Synergy—Catching Gamma-Ray Bursts Before They Fly. *Jeremy S. Heyl.* 592, 401 (2003)

Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

Perspective on Afterglows: Numerically Computed Views, Light Curves, and the Analysis of Homogeneous and Structured Jets with Lateral Expansion. *Jay D. Salmonson.* 592, 1002 (2003)

A Comparative Study of the X-Ray Afterglow Properties of Optically Bright and Dark Gamma-Ray Bursts. *M. De Pasquale, L. Piro, R. Perna, E. Costa, M. Feroci, G. Gandolfi, J. in't Zand, L. Nicastro, F. Frontera, L. A. Antonelli, F. Fiore, & G. Stratta.* 592, 1018 (2003)

The Very Faint *K*-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts. *S. Klose, A. A. Henden, J. Greiner, D. H. Hartmann, N. Cardiel, A. J. Castro-Tirado, J. M. Castro Ceron, J. Gallego, J. Gorosabel, B. Stecklum, N. Tanvir, U. Thiele, F. J. Vrba, & A. Zeh.* 592, 1025 (2003)

Observational Evidence for a Correlation between Peak Luminosities and Beaming in Gamma-Ray Bursts. *Maurice H. P. M. van Putten & Tania Regimbau.* 593, L15 (2003)

On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329. *K. S. Kawabata, J. Deng, L. Wang, P. Mazzali, K. Nomoto, K. Maeda, N. Tominaga, H. Umeda, M. Iye, G. Kosugi, Y. Ohyama, T. Sasaki, P. Höflich, J. C. Wheeler, D. J. Jeffery, K. Aoki, N. Kashikawa, T. Takata, N. Kawai, T. Sakamoto, Y. Urata, A. Yoshida, T. Tamagawa, K. Torii, W. Aoki, N. Kobayashi, Y. Komiyama, Y. Mizumoto, J. Noumaru, R. Ogasawara, K. Sekiguchi, Y. Shirasaki, T. Totani, J. Watanabe, & T. Yamada.* 593, L19 (2003)

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

Cosmological X-Ray Flashes in the Off-Axis Jet Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 593, 941 (2003)

Iron K Lines from Gamma-Ray Bursts. *T. R. Kallman, P. Mészáros, & M. J. Rees.* 593, 946 (2003)

What We Learn from the Afterglow of GRB 021211. *Shlomo Dado, Arnon Dar, & A. De Rújula.* 593, 961 (2003)

Radio Imaging of Gamma-Ray Burst Jets in Nearby Supernovae. *Jonathan Granot & Abraham Loeb.* 593, L81 (2003)

The Radio Afterglow from the Giant Flare of SGR 1900+14: The Same Mechanism as Afterglows from Classic Gamma-Ray Bursts? *X.Y. Wang & K.S. Cheng.* 593, L85 (2003)

GAMMA RAYS: OBSERVATIONS

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Search for TeV Gamma Rays from SN 1987A in 2001. *R. Enomoto, L. T. Ksenofontov, H. Katagiri, K. Tsuchiya, A. Asahara, G. V. Bicknell, R. W. Clay, P. G. Edwards, S. Gunji, S. Hara, T. Hara, H. Hattori, Sei. Hayashi, Shin. Hayashi, C. Itoh, S. Kabuki, F. Kajino, A. Kawachi, T. Kifune, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Naito, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, J. R. Patterson, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, H. Tsunoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 591, L25 (2003)

GAMMA RAYS: THEORY

Delayed Flashes from Counterjets of Gamma-Ray Bursts. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 591, 283 (2003)

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

The Evolution of a Structured Relativistic Jet and Gamma-Ray Burst Afterglow Light Curves. *Pawan Kumar & Jonathan Granot.* 591, 1075 (2003)

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

Perspective on Afterglows: Numerically Computed Views, Light Curves, and the Analysis of Homogeneous and Structured Jets with Lateral Expansion. *Jay D. Salmonson.* 592, 1002 (2003)

Cosmological X-Ray Flashes in the Off-Axis Jet Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 593, 941 (2003)

GRAVITATION

Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

GRAVITATIONAL LENSING

Microlensing Optical Depth toward the Galactic Bulge from Microlensing Observations during 2000 with Difference Image Analysis. *T. Sumi, F. Abe, I. A. Bond, R. J. Dodd, J. B. Hearnshaw, M. Honda, M. Honma, Y. Kan-ya, P. M. Kilmartin, K. Masuda, Y. Matsubara, Y. Muraki, T. Nakamura, R. Nishi, S. Noda, K. Ohnishi, O. K. L. Petterson, N. J. Rattenbury, M. Reid, To. Saito, Y. Saito, H. Sato, M. Sekiguchi, J. Skuljan, D. J. Sullivan, M. Takeuti, P. J. Tristram, S. Wilkinson, T. Yanagisawa, & P. C. M. Yock.* 591, 204 (2003)

Resolving the Microlens Mass Degeneracy for Earth-Mass Planets. *Andrew Gould, B. Scott Gaudi, & Cheongho Han.* 591, L53 (2003)

Weak Gravitational Lensing by a Sample of X-Ray–luminous Clusters of Galaxies. III. Serendipitous Weak Lensing Detections of Dark and Luminous Mass Concentrations. *Haakon Dahle, Kristian Pedersen, Per B. Lilje, Steve J. Maddox, & Nick Kaiser.* 591, 662 (2003)

Direct Mapping of Massive Compact Objects in Extragalactic Dark Halos. *Kaiki Taro Inoue & Masashi Chiba.* 591, L83 (2003)

Prospects for the Determination of H_0 through Observation of Multiply Imaged Supernovae in Galaxy Cluster Fields. *Adam S. Bolton & Scott Burles.* 592, 17 (2003)

Lensing Optical Depths for Substructure and Isolated Dark Matter Halos. *Jacqueline Chen, Andrey V. Kravtsov, & Charles R. Keeton.* 592, 24 (2003)

Stellar Contribution to the Galactic Bulge Microlensing Optical Depth. *Cheongho Han & Andrew Gould.* 592, 172 (2003)

Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0. *Ue-Li Pen, Tongjie Zhang, Ludovic van Waerbeke, Yannick Mellier, Pengjie Zhang, & John Dubinski.* 592, 664 (2003)

Simulating Weak Lensing by Large-Scale Structure. *Chris Vale & Martin White.* 592, 699 (2003)

Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar Pair UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

GRAVITATIONAL WAVES

Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

Prospects for the Detection of Electromagnetic Counterparts to Gravitational Wave Events. *Julien Sylvestre.* 591, 1152 (2003)

Linear Stability Analysis of Differentially Rotating Polytropes: New Results for the $M = 2$ F-Mode Dynamical Instability. *Shigeyuki Karino & Yoshiharu Eriguchi.* 592, 1119 (2003)

Prediction of the Sidereal Time Distribution of Gravitational Wave Events for Different Detectors. *G. Paturel & Yu. Baryshev.* 592, L99 (2003)

Phase Coherent Timing of RX J0806.3+1527 with *ROSAT* and *Chandra*. *Tod E. Strohmayer.* 593, L39 (2003)

HYDRODYNAMICS

The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

Spiral Arms in Accretion Discs Encounters. *S. Pfalzner.* 592, 986 (2003)

Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

Evolving Active Region Loops Observed with the *Transition Region and Coronal Explorer*. II. Time-Dependent Hydrodynamic Simulations. *Harry P. Warren, Amy R. Winebarger, & John T. Mariska.* 593, 1174 (2003)

KH 15D: A Star Eclipsed by a Large-Scale Dusty Vortex? *Pierre Barge & M. Viton.* 593, L117 (2003)

INFRARED: GALAXIES

Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

Near-Infrared Properties of Galaxy Clusters: Luminosity as a Binding Mass Predictor and the State of Cluster Baryons. *Yen-Ting Lin, Joseph J. Mohr, & S. A. Stanford.* 591, 749 (2003)

Large Disklike Galaxies at High Redshift. *Ivo Labbé, Gregory Rudnick, Marijn Franx, Emanuele Daddi, Pieter G. van Dokkum, Natascha M. Förster Schreiber, Konrad Kuijken, Alan Moorwood, Hans-Walter Rix, Huub Röttgering, Ignacio Trujillo, Arjen van der Wel, Paul van der Werf, & Lottie van Starkenburg.* 591, L95 (2003)

Barred Galaxies at $z > 0.7$: NICMOS Hubble Deep Field–North Observations. *Kartik Sheth, Michael W. Regan, Nicholas Z. Scoville, & Linda E. Strubbe.* 592, L13 (2003)

VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469. *Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond.* 592, 804 (2003)

Deep Near-Infrared Mapping of Young and Old Stars in Blue Compact Dwarf Galaxies. *Luz M. Cairós, Nicola Caon, Polychronis Papaderos, Kai Noeske, Jose M. Vílchez, Begoña García Lorenzo, & Casiana Muñoz-Tuñón.* 593, 312 (2003)

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

INFRARED: GENERAL

The Very Faint K-Band Afterglow of GRB 020819 and the Dust Extinction Hypothesis of the Dark Bursts. *S. Klose, A. A. Henden, J. Greiner, D. H. Hartmann, N. Cardiel, A. J. Castro-Tirado, J. M. Castro Ceron, J. Gallego, J. Gorosabel, B. Stecklum, N. Tanvir, U. Thiele, F. J. Vrba, & A. Zeh.* 592, 1025 (2003)

INFRARED: ISM

Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Infrared Space Observatory Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

INFRARED: SOLAR SYSTEM

Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levison, & Luke Dones.* 591, 486 (2003)

INFRARED: STARS

Near-Infrared Spectra of Type Ia Supernovae. *G. H. Marion, P. Höflich, W. D. Vacca, & J. C. Wheeler.* 591, 316 (2003)

A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows,*

James Liebert, I. Niell Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean. 592, 1186 (2003)

Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

INSTABILITIES

The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

Global General Relativistic Magnetohydrodynamic Simulations of Accretion Tori. *Jean-Pierre De Villiers & John F. Hawley.* 592, 1060 (2003)

Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

A Theoretical γ Doradus Instability Strip. *Phillip B. Warner, Anthony B. Kaye, & Joyce A. Guzik.* 593, 1049 (2003)

INSTRUMENTATION: DETECTORS

A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

INSTRUMENTATION: INTERFEROMETERS

Observations of DG Tauri with the Keck Interferometer. *M. Colavita, R. Akeson, P. Wizinowich, M. Shao, S. Acton, J. Beletic, J. Bell, J. Berlin, A. Boden, A. Booth, R. Boutell, F. Chaffee, D. Chan, J. Chock, R. Cohen, S. Crawford, M. Creech-Eakman, G. Eychaner, C. Felizardo, J. Gathright, G. Hardy, H. Henderson, J. Herstein, M. Hess, E. Hovland, M. Hrynevych, R. Johnson, J. Kelley, R. Kendrick, C. Koresko, P. Kurpis, D. Le Mignant, H. Lewis, E. Ligon, W. Lupton, D. McBride, B. Mennesson, R. Millan-Gabet, J. Monnier, J. Moore, C. Nance, C. Neyman, A. Niessner, D. Palmer, L. Reder, A. Rudeen, T. Saloga, A. Sargent, E. Serabyn, R. Smythe, P. Stomski, K. Summers, M. Swain, P. Swanson, R. Thompson, K. Tsubota, A. Tumminello, G. van Belle, G. Vasisht, J. Vause, J. Walker, K. Wallace, & U. Wehmeier.* 592, L83 (2003)

High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

INSTRUMENTATION: SPECTROGRAPHS

High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

INTERGALACTIC MEDIUM

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

INTERPLANETARY MEDIUM

Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levison, & Luke Dones.* 591, 486 (2003)

Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

Characteristics of Scatter-free Behavior of Heliospheric Pickup Ions. *J. G. Luhmann.* 592, 1241 (2003)

Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

ISM: ABUNDANCES

Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Oxygen Gas-Phase Abundance Revisited. *M. K. André, C. M. Oliveira, J. C. Howk, R. Ferlet, J.-M. Désert, G. Hébrard, S. Lacour, A. Lecavelier des Étangs, A. Vidal-Madjar, & H. W. Moos.* 591, 1000 (2003)

[C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

ISM: ATOMS

Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

ISM: CLOUDS

Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

High-Velocity Cloud Complex H: A Satellite of the Milky Way in a Retrograde Orbit? *Felix J. Lockman.* 591, L33 (2003)

Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

[C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

Infrared Photometry of Starless Dense Cores. *D. C. Murphy & P. C. Myers.* 591, 1034 (2003)

Variable Na I Absorption toward ρ Leonis: Biased Neutral Formation in the Diffuse Interstellar Medium? *J. T. Lauroesch & David M. Meyer.* 591, L123 (2003)

Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

Local Interstellar Matter: The Apex Cloud. *Priscilla C. Frisch.* 593, 868 (2003)

Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

ISM: COSMIC RAYS

Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

On Particle Acceleration around Shocks. I. *Mario Vietri.* 591, 954 (2003)

Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

Coronal Mass Ejections, the Tail of the Solar Wind Magnetic Field Distribution, and 11 Year Cosmic-Ray Modulation at 1 AU. *E. W. Cliver, A. G. Ling, & I. G. Richardson.* 592, 574 (2003)

RXTE, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

ISM: DUST, EXTINCTION

Has the Optical Extragalactic Background Light Been Detected? *K. Mattila.* 591, 119 (2003)

Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Oxygen Gas-Phase Abundance Revisited. *M. K. André, C. M. Oliveira, J. C. Howk, R. Ferlet, J.-M. Désert, G. Hébrard, S. Lacour, A. Lecavelier des Étangs, A. Vidal-Madjar, & H. W. Moos.* 591, 1000 (2003)

Infrared Photometry of Starless Dense Cores. *D. C. Murphy & P. C. Myers.* 591, 1034 (2003)

Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

Galactic Foreground Constraints from the Python V Cosmic Microwave Background Anisotropy Data. *Pia Mukherjee, Kim Coble, Mark Dragovan, Ken Ganga, John Kovac, Bharat Ratra, & Tarun Souradeep.* 592, 692 (2003)

The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons. *Geoffrey C. Clayton, Karl D. Gordon, F. Salama, L. J. Allamandola, Peter G. Martin, T. P. Snow, D. C. B. Whittet, A. N. Witt, & Michael J. Wolff.* 592, 947 (2003)

On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

ISM: GENERAL

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

ISM: GLOBULES

Infrared Photometry of Starless Dense Cores. *D. C. Murphy & P. C. Myers.* 591, 1034 (2003)

ISM: H II REGIONS

The Composition Gradient in M101 Revisited. II. Electron Temperatures and Implications for the Nebular Abundance Scale. *Robert C. Kennicutt, Jr., Fabio Bresolin, & Donald R. Garnett.* 591, 801 (2003)

Infrared Space Observatory Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

The Effect of Collisional Enhancement of Balmer Lines on the Determination of the Primordial Helium Abundance. *V. Luridiana, A. Peimbert, M. Peimbert, & M. Cervino.* 592, 846 (2003)

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

ISM: HERBIG-HARO OBJECTS

Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

ISM: INDIVIDUAL

Name: Cassiopeia A

Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

Cassiopeia A and Its Clumpy Presupernova Wind. *Roger A. Chevalier & Jeffrey Oishi.* 593, L23 (2003)

Name: Orion Kleinmann-Low

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

Name: Sagittarius B2(N-LMH)

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

Name: Vela Supernova Remnant

The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

NGC Number: NGC 891

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

NGC Number: NGC 4631

Probing O VI Emission in the Halos of Edge-On Spiral Galaxies. *B. Otte, E. M. Murphy, J. C. Howk, Q. D. Wang, W. R. Oegerle, & K. R. Sembach.* 591, 821 (2003)

NGC Number: NGC 7129

Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Alphanumeric: 0525−66

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

Alphanumeric: B335

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

Alphanumeric: CB 230

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

ALphanumeric: CB 244

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

Alphanumeric: G292.0+1.8

An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Alphanumeric: G292.2−0.5

Chandra Detection of the High Magnetic Field Radio Pulsar J1119−6127 in the Supernova Remnant G292.2−0.5. *Marjorie Gonzalez & Samar Safi-Harb.* 591, L143 (2003)

Alphanumeric: G347.3−0.5

X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

Alphanumeric: IRAS 16293−2422

The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

Alphanumeric: L1544

Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

Alphanumeric: MBM 12

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

Alphanumeric: MCLD 123.5+24.9

[C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

Alphanumeric: MSH 11−54

An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Alphanumeric: N49B

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

Alphanumeric: OMC-2

High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

Alphanumeric: OMC-3

High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

Alphanumeric: SN 1572

Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

Alphanumeric: SNR 0534−69.9

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

Alphanumeric: SNR G16.7+0.1

An X-Ray Image of the Composite Supernova Remnant G16.7+0.1. *David J. Helfand, Marcel A. Agueros, & E. V. Gotthelf.* 592, 941 (2003)

Alphanumeric: SNR G39.2−0.3

Chandra Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

Alphanumeric: SNR 0548−70.4

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

Alphanumeric: W3

A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

Alphanumeric: W51 e1/e2

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

ISM: JETS AND OUTFLOWS

A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

Radio Imaging of Gamma-Ray Burst Jets in Nearby Supernovae. *Jonathan Granot & Abraham Loeb.* 593, L81 (2003)

The Radio Afterglow from the Giant Flare of SGR 1900+14: The Same Mechanism as Afterglows from Classic Gamma-Ray Bursts? *X.Y. Wang & K.S. Cheng.* 593, L85 (2003)

ISM: KINEMATICS AND DYNAMICS

Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

ISM: LINES AND BANDS

A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons. *Geoffrey C. Clayton, Karl D. Gordon, F. Salama, L. J. Allamandola, Peter G. Martin, T. P. Snow, D. C. B. Whittet, A. N. Witt, & Michael J. Wolff.* 592, 947 (2003)

ISM: MAGNETIC FIELDS

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

ISM: MOLECULES

Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons. *Geoffrey C. Clayton, Karl D. Gordon, F. Salama, L. J. Allamandola, Peter G. Martin, T. P. Snow, D. C. B. Whittet, A. N. Witt, & Michael J. Wolff.* 592, 947 (2003)

Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

Indications of Inflow Motions in Regions Forming Massive Stars. *Neal J. Evans II & Jingwen Wu.* 592, L79 (2003)

The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

ISM: PLANETARY NEBULAE: GENERAL

Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

ISM: PLANETARY NEBULAE: INDIVIDUAL

Name: Menzel 3

A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

ISM: REFLECTION NEBULAE

Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

ISM: STRUCTURE

Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

Variable Na I Absorption toward ρ Leonis: Biased Neutral Formation in the Diffuse Interstellar Medium? *J. T. Lauroesch & David M. Meyer.* 591, L123 (2003)

High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

Local Interstellar Matter: The Apex Cloud. *Priscilla C. Frisch.* 593, 868 (2003)

ISM: SUPERNOVA REMNANTS

X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Chandra Detection of the High Magnetic Field Radio Pulsar J1119−6127 in the Supernova Remnant G292.2−0.5. *Marjorie Gonzalez & Samar Safi-Harb.* 591, L143 (2003)

Near-Infrared Synchrotron Emission from Cassiopeia A. *Jeonghee Rho, Stephen P. Reynolds, William T. Reach, Tom H. Jarrett, Glenn E. Allen, & John C. Wilson.* 592, 299 (2003)

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

Chandra Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

An X-Ray Image of the Composite Supernova Remnant G16.7+0.1. *David J. Helfand, Marcel A. Agueros, & E. V. Gotthelf.* 592, 941 (2003)

Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

RXTE, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

Cassiopeia A and Its Clumpy Presupernova Wind. *Roger A. Chevalier & Jeffrey Oishi.* 593, L23 (2003)

X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

Hubble Space Telescope Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock. *Eli Michael, Richard McCray, Roger Chevalier, Alexei V. Filippenko, Peter Lundqvist, Peter Challis, Ben Sugerman, Stephen Lawrence, C. S. J. Pun, Peter Garnavich, Robert Kirshner, Arlin Crotts, Claes Fransson, Weidong Li, Nino Panagia, Mark Phillips, Brian Schmidt, George Sonneborn, Nicholas Suntzeff, Lifan Wang, & J. Craig Wheeler.* 593, 809 (2003)

LINE: FORMATION

Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

XMM-Newton Observation of Broad Iron Kα Emission from Seyfert 1.9 Galaxy MCG −5-23-16. *G. C. Dewangan, R. E. Griffiths, & N. J. Schurch.* 592, 52 (2003)

Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

Recombination X-Ray Line Formation of Iron L-Shell Ions in Low Temperature Plasmas. *M. F. Gu.* 593, 1249 (2003)

LINE: IDENTIFICATION

Gamma-Ray Bursts as X-Ray Depth Gauges of the Universe. *P. Mészáros & M. J. Rees.* 591, L91 (2003)

The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

LINE: PROFILES

Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

Magnetic Fields in the Quiet Sun: Observational Discrepancies and Unresolved Structure. *H. Socas-Navarro & J. Sánchez Almeida.* 593, 581 (2003)

MAGNETIC FIELDS

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

Geometrically Thin Disk Accreting into a Black Hole. *N. Afshordi & B. Paczyński.* 592, 354 (2003)

Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

MAGNETOHYDRODYNAMICS: MHD

Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

Rayleigh-Taylor Gravity Waves and Quasi-periodic Oscillation Phenomena in X-Ray Binaries. *Lev Titarchuk.* 591, 354 (2003)

Dissipation in Poynting-Flux–dominated Flows: The σ-Problem of the Crab Pulsar Wind. *J. G. Kirk & O. Skjaeraasen.* 591, 366 (2003)

Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

Relativistic Acceleration of Magnetically Driven Jets. *Akira Tomimatsu & Masaaki Takahashi.* 592, 321 (2003)

Numerical Simulations of Astrophysical Jets from Keplerian Disks with Periodic Ejection. *B. F. Vitorino, V. Jatenco-Pereira, & R. Opher.* 592, 332 (2003)

Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

Global General Relativistic Magnetohydrodynamic Simulations of Accretion Tori. *Jean-Pierre De Villiers & John F. Hawley.* 592, 1060 (2003)

Viscosity-driven Winds from Magnetized Accretion Disks. *Daizo Maruta & Osamu Kaburaki.* 593, 85 (2003)

Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

Role of Magnetic Flux Distribution in Coronal Energy Storage. *Richard Wolfson.* 593, 1208 (2003)

Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

MASERS

A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

METEORS, METEOROIDS

Solar System Abundances and Condensation Temperatures of the Elements. *Katharina Lodders.* 591, 1220 (2003)

A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

METHODS: ANALYTICAL

A Simplified Model for an Evolving Protoplanetary Nebula. *Sanford S. Davis.* 592, 1193 (2003)

METHODS: DATA ANALYSIS

Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

A Comparison of Solar *p*-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

Peculiar Pair of Distant Periodic Comets C/2002 A1 and C/2002 A2 (LINEAR). *Zdenek Sekanina, Paul W. Chodas, Miloš Tichý, Jana Tichá, & Michal Kočer.* 591, L67 (2003)

A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager. *S. T. Myers, C. R. Contaldi, J. R. Bond, U.-L. Pen, D. Pogosyan, S. Prunet, J. L. Sievers, B. S. Mason, T. J. Pearson, A. C. S. Readhead, & M. C. Shepherd.* 591, 575 (2003)

The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Prediction of the Sidereal Time Distribution of Gravitational Wave Events for Different Detectors. *G. Paturel & Yu. Baryshev.* 592, L99 (2003)

Cloning Dropouts: Implications for Galaxy Evolution at High Redshift. *Rychard Bouwens, Tom Broadhurst, & Garth Illingworth.* 593, 640 (2003)

METHODS: LABORATORY

Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

METHODS: *N*-BODY SIMULATIONS

The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Successive Refinements in Long-Term Integrations of Planetary Orbits. *F. Varadi, B. Runnegar, & M. Ghil.* 592, 620 (2003)

On the Origin of the Inner Structure of Halos. *Alberto Manrique, Andreu Raig, Eduard Salvador-Solé, Teresa Sanchis, & José María Solanes.* 593, 26 (2003)

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

METHODS: NUMERICAL

Feedback from the First Supernovae in Protogalaxies: The Fate of the Generated Metals. *Keiichi Wada & Aparna Venkatesan.* 591, 38 (2003)

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Simulations of Galaxy Formation in a Λ Cold Dark Matter Universe. I. Dynamical and Photometric Properties of a Simulated Disk Galaxy. *Mario G. Abadi, Julio F. Navarro, Matthias Steinmetz, & Vincent R. Eke.* 591, 499 (2003)

Dark and Luminous Matter Connections from Smoothed Particle Hydrodynamic Simulations of Isolated Triaxial Collapsing Systems. *P. Mazzei & A. Curir.* 591, 784 (2003)

Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

Arrival Distribution of Ultra–High-Energy Cosmic Rays: Prospects for the Future. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 592, 311 (2003)

The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Accretion of Low Angular Momentum Material onto Black Holes: Two-dimensional Magnetohydrodynamic Case. *Daniel Proga & Mitchell C. Begelman.* 592, 767 (2003)

The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

Revisited Abundance Diagnostics in Quasars: Fe II/Mg II Ratios. *E. Verner, F. Bruhweiler, D. Verner, S. Johansson, & T. Gull.* 592, L59 (2003)

Black Hole Growth and Activity in a Λ Cold Dark Matter Universe. *Tiziana Di Matteo, Rupert A. C. Croft, Volker Springel, & Lars Hernquist.* 593, 56 (2003)

Roche Lobe Overflow from Dwarf Stellar Systems. *Stephen D. Murray, Shawfeng Dong, & Douglas N. C. Lin.* 593, 301 (2003)

Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

METHODS: STATISTICAL

Karhunen-Loève Estimation of the Power Spectrum Parameters from the Angular Distribution of Galaxies in Early Sloan Digital Sky Survey Data. *Alexander S. Szalay, Bhuvnesh Jain, Takahiko Matsubara, Ryan Scranton, Michael S. Vogeley, Andrew Connelly, Scott Dodelson, Daniel Eisenstein, Joshua A. Frieman, James E. Gunn, Lam Hui, David Johnston, Stephen Kent, Martin Kerscher, Jon Loveday, Avery Meiksin, Vijay Narayanan, Robert C. Nichol, Liam O'Connell, Adrian Pope, Roman Scoccimarro, Ravi K. Sheth, Albert Stebbins, Michael A. Strauss, István Szapudi, Max Tegmark, Idit Zehavi, James Annis, Neta Bahcall, Jon Brinkmann, István Csabai, Masataka Fukugita, Greg Hennessy, Zeljko Ivezic, Gillian R. Knapp, Peter A. Kunszt, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Jeffrey R. Munn, John Peoples, Jeffrey R. Pier, Constance Rockosi, David Schlegel, Christopher Stoughton, Douglas L. Tucker, Brian Yanny, & Donald G. York.* 591, 1 (2003)

On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

Phase Correlations in Non-Gaussian Fields. *Takahiko Matsubara.* 591, L79 (2003)

A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

MINOR PLANETS, ASTEROIDS

Recent Origin of the Solar System Dust Bands. *David Nesvorný, William F. Bottke, Harold F. Levision, & Luke Dones.* 591, 486 (2003)

Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

MOLECULAR DATA

Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

MOLECULAR PROCESSES

Enhanced Deuterium Fractionation in Dense Interstellar Cores Resulting from Multiply Deuterated H_3^+. *Helen Roberts, Eric Herbst, & T. J. Millar.* 591, L41 (2003)

Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

NEUTRINOS

Neutrinos from the Propagation of a Relativistic Jet through a Star. *Jason Pruet.* 591, 1104 (2003)

Shock Breakout in Core-Collapse Supernovae and Its Neutrino Signature. *Todd A. Thompson, Adam Burrows, & Philip A. Pinto.* 592, 434 (2003)

NUCLEAR REACTIONS, NUCLEOSYNTHESIS, ABUNDANCES

Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J. Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz.* 591, 936 (2003)

Evolution, Explosion, and Nucleosynthesis of Core-Collapse Supernovae. *Marco Limongi & Alessandro Chieffi.* 592, 404 (2003)

Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

Europium Isotope Ratios in *s*-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching. *Wako Aoki, Sean G. Ryan, Nobuyuki Iwamoto, Timothy C. Beers, John E. Norris, Hiroyasu Ando, Toshitaka Kajino, Grant J. Mathews, & Masayuki Y. Fujimoto.* 592, L67 (2003)

Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329. *K. S. Kawabata, J. Deng, L. Wang, P. Mazzali, K. Nomoto, K. Maeda, N. Tominaga, H. Umeda, M. Iye, G. Kosugi, Y. Ohyama, T. Sasaki, P. Höflich, J. C. Wheeler, D. J. Jeffery, K. Aoki, N. Kashikawa, T. Takata, N. Kawai, T. Sakamoto, Y. Urata, A. Yoshida, T. Tamagawa, K. Torii, W. Aoki, N. Kobayashi, Y. Komiyama, Y. Mizumoto, J. Noumaru, R. Ogasawara, K. Sekiguchi, Y. Shirasaki, T. Totani, J. Watanabe, & T. Yamada.* 593, L19 (2003)

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

The *r*-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

The *s*-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

PLANETS AND SATELLITES: GENERAL

On the Radii of Extrsolar Giant Planets. *Peter Bodenheimer, Gregory Laughlin, & Douglas N. C. Lin.* 592, 555 (2003)

Secular Evolution of Hierarchical Planetary Systems. *Man Hoi Lee & S. J. Peale.* 592, 1201 (2003)

PLANETS AND SATELLITES: FORMATION

Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

PLANETS AND SATELLITES: INDIVIDUAL

Nereid

The Short Rotation Period of Nereid. *Tommy Grav, Matthew J. Holman, & J. J. Kavelaars.* 591, L71 (2003)

PLASMAS

The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

Dissipation in Poynting-Flux–dominated Flows: The σ-Problem of the Crab Pulsar Wind. *J. G. Kirk & O. Skjaeraasen.* 591, 366 (2003)

Properties of Solar Plasmas near Solar Maximum above Two Quiet Regions at Distances of 1.02–1.34 $R_\odot$. *E. Landi & U. Feldman.* 592, 607 (2003)

Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

POLARIZATION

Simultaneous Optical and Near-Infrared Spectropolorimetry of Type 2 Seyfert Galaxies. *Makoto Watanabe, Tetsuya Nagata, Shuji Sato, Hidehiko Nakaya, & J. H. Hough.* 591, 714 (2003)

Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

On Large-Scale Magnetic Field Reversals in the Outer Galaxy. *J. C. Brown, A. R. Taylor, R. Wielebinski, & P. Mueller.* 592, L29 (2003)

The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329. *K. S. Kawabata, J. Deng, L. Wang, P. Mazzali, K. Nomoto, K. Maeda, N. Tominaga, H. Umeda, M. Iye, G. Kosugi, Y. Ohyama, T. Sasaki, P. Höflich, J. C. Wheeler, D. J. Jeffery,*

K. Aoki, N. Kashikawa, T. Takata, N. Kawai, T. Sakamoto, Y. Uratta, A. Yoshida, T. Tamagawa, K. Torii, W. Aoki, N. Kobayashi, Y. Komiyama, Y. Mizumoto, J. Noumaru, R. Ogasawara, K. Sekiguchi, Y. Shirasaki, T. Totani, J. Watanabe, & T. Yamada. 593, L19 (2003)

Optical Spectropolarimetry of Quasi-stellar Objects Discovered by the Two-Micron All Sky Survey. *Paul S. Smith, Gary D. Schmidt, Dean C. Hines, & Craig B. Foltz.* 593, 676 (2003)

Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta. *Daniel Kasen, Peter Nugent, Lifan Wang, D. A. Howell, J. Craig Wheeler, Peter Höflich, Dietrich Baade, E. Baron, & P. H. Hauschildt.* 593, 788 (2003)

RADIATION MECHANISMS: GENERAL

X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

RADIATION MECHANISMS: NONTHERMAL

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

The Electron Spectrum in 3C 279 and the Observed Emission Spectrum. *Masaaki Kusunose, Fumio Takahara, & Tomohiro Kato.* 592, L5 (2003)

The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

Constraints on Pulsar Magnetospheric and Wind Parameters for the Compact Nebulae of Vela and PSR B1706−44. *Ramotholo R. Sefako & Ocker C. de Jager.* 593, 1013 (2003)

RADIATIVE TRANSFER

Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

Shock Breakout in Core-Collapse Supernovae and Its Neutrino Signature. *Todd A. Thompson, Adam Burrows, & Philip A. Pinto.* 592, 434 (2003)

The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

Local Three-dimensional Simulations of Magnetorotational Instability in Radiation-dominated Accretion Disks. *N. J. Turner, J. M. Stone, J. H. Krolik, & T. Sano.* 593, 992 (2003)

Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)

Radiative Transfer on Perturbations in Protoplanetary Disks. *Hannah Jang-Condell & Dimitar D. Sasselov.* 593, 1116 (2003)

RADIO CONTINUUM: GALAXIES

The Cross-Wavelet Transform and Analysis of Quasi-periodic Behavior in the Pearson-Readhead VLBI Survey Sources. *Brandon C. Kelly, Philip A. Hughes, Hugh D. Aller, & Margo F. Aller.* 591, 695 (2003)

A Relativistic Jet in the Radio-quiet Quasar PG 1407+263. *Katherine M. Blundell, Anthony J. Beasley, & Geoffrey V. Bicknell.* 591, L103 (2003)

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

VLBI Imaging of Luminous Infrared Galaxies: Active Galactic Nucleus Cores in Markarian 231, UGC 5101, and NGC 7469. *Carol J. Lonsdale, Colin J. Lonsdale, Harding E. Smith, & Philip J. Diamond.* 592, 804 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

Nascent Starbursts in Synchrotron-deficient Galaxies with Hot Dust. *H. Roussel, G. Helou, R. Beck, J. J. Condon, A. Bosma, K. Matthews, & T. H. Jarrett.* 593, 733 (2003)

RADIO CONTINUUM: GENERAL

The Low-Frequency Radio Counterpart of the *XMM* Large-Scale Structure Survey. *A. S. Cohen, H. J. A. Roettgering, N. E. Kassim, W. D. Cotton, R. A. Perley, R. Wilman, P. Best, M. Pierre, M. Birkinshaw, M. Bremer, & A. Zanichelli.* 591, 640 (2003)

RADIO CONTINUUM: STARS

SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

RADIO LINES: GALAXIES

Fast Outflow of Neutral Hydrogen in the Radio Galaxy 3C 293. *R. Morganti, T. A. Oosterloo, B. H. C. Emonts, J. M. van der Hulst, & C. N. Tadhunter.* 593, L69 (2003)

RADIO LINES: ISM

Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

High-Velocity Cloud Complex H: A Satellite of the Milky Way in a Retrograde Orbit? *Felix J. Lockman.* 591, L33 (2003)

[C I] 492 GHz Mapping Observations of the High-Latitude Translucent Cloud MCLD 123.5+24.9. *F. Bensch, U. Leuenhagen, J. Stutzki, & R. Schieder.* 591, 1013 (2003)

High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

Detection of OH Absorption against PSR B1849+00. *Snežana Stanimirović, Joel M. Weisberg, John M. Dickey, Anton de la Fuente, Kathryn Devine, Abigail Hedden, & Stuart B. Anderson.* 592, 953 (2003)

The Radio Spectrum of Si_3. *M. C. McCarthy & P. Thaddeus.* 592, L91 (2003)

Precise Laboratory Frequencies of the $J = 1$–0 and $J = 2$–1 Rotational Transitions of $C^{18}O$. *G. Cazzoli, C. Puzzarini, & A. V. Lapinov.* 592, L95 (2003)

Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

Interstellar Glycine. *Yi-Jehng Kuan, Steven B. Charnley, Hui-Chun Huang, Wei-Ling Tseng, & Zbigniew Kisiel.* 593, 848 (2003)

A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

First Detection of Doubly Deuterated Hydrogen Sulfide. *C. Vastel, T. G. Phillips, C. Ceccarelli, & J. Pearson.* 593, L97 (2003)

RADIO LINES: STARS

The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

RELATIVITY

GRB 030226 in a Density-Jump Medium. *Z. G. Dai & X. F. Wu.* 591, L21 (2003)

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

Relativistic Acceleration of Magnetically Driven Jets. *Akira Tomimatsu & Masaaki Takahashi.* 592, 321 (2003)

SCATTERING

Radiative Acceleration and Transient, Radiation-induced Electric Fields. *L. Zampieri, R. Turolla, L. Foschini, & A. Treves.* 592, 368 (2003)

The Effect of the Compton Backscattering Component on the Photon Spectra of Three *Yohkoh*/Hard X-Ray Telescope Flares. *Jian Zhang & Guang Li Huang.* 592, L49 (2003)

Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

SHOCK WAVES

The Numerical Simulation of Radiative Shocks. II. Thermal Instabilities in Two-dimensional Models. *Ralph S. Sutherland, Geoffrey V. Bicknell, & Michael A. Dopita.* 591, 238 (2003)

Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

GRB 030226 in a Density-Jump Medium. *Z. G. Dai & X. F. Wu.* 591, L21 (2003)

On Particle Acceleration around Shocks. I. *Mario Vietri.* 591, 954 (2003)

Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves. *Jonathan Granot & Pawan Kumar.* 591, 1086 (2003)

Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

On the Generation of Ultra–High-Energy Cosmic Rays in Gamma-Ray Bursts: A Reappraisal. *Mario Vietri, Daniel De Marco, & Dafne Guetta.* 592, 378 (2003)

The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission. *A. Panaitescu & P. Kumar.* 592, 390 (2003)

Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

Multitransonic Black Hole Accretion Disks with Isothermal Standing Shocks. *Tapas K. Das, Jayant K. Pendharkar, & Sanjit Mitra.* 592, 1078 (2003)

Polarization and Fragmentation of Solar Type II Radio Bursts. *G. Thejappa, P. Zlobec, & R. J. MacDowall.* 592, 1234 (2003)

Chandra Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

Cosmological Shock Waves and Their Role in the Large-Scale Structure of the Universe. *Dongsu Ryu, Hyesung Kang, Eric Hallman, & T. W. Jones.* 593, 599 (2003)

Hubble Space Telescope Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock. *Eli Michael, Richard McCray, Roger Chevalier, Alexei V. Filippenko, Peter Lundqvist, Peter Challis, Ben Sugerman, Stephen Lawrence, C. S. J. Pun, Peter Garnavich, Robert Kirshner, Arlin Crotts, Claes Fransson, Weidong Li, Nino Panagia, Mark Phillips, Brian Schmidt, George Sonneborn, Nicholas Suntzeff, Lifan Wang, & J. Craig Wheeler.* 593, 809 (2003)

SOLAR SYSTEM: FORMATION

Solar System Abundances and Condensation Temperatures of the Elements. *Katharina Lodders.* 591, 1220 (2003)

A Simplified Model for an Evolving Protoplanetary Nebula. *Sanford S. Davis.* 592, 1193 (2003)

Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

Surface Outflow in Optically Thick Dust Disks by Radiation Pressure. *Taku Takeuchi & D. N. C. Lin.* 593, 524 (2003)

SOLAR SYSTEM: GENERAL

Successive Refinements in Long-Term Integrations of Planetary Orbits. *F. Varadi, B. Runnegar, & M. Ghil.* 592, 620 (2003)

STARS: ABUNDANCES

Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J. Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz.* 591, 936 (2003)

Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

Constraints on the Origin of Manganese from the Composition of the Sagittarius Dwarf Spheroidal Galaxy and the Galactic Bulge. *Andrew McWilliam, R. Michael Rich, & Tammy A. Smecker-Hane.* 592, L21 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

Europium Isotope Ratios in s-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching. *Wako Aoki, Sean G. Ryan, Nobuyuki Iwamoto, Timothy C. Beers, John E. Norris, Hiroyasu Ando, Toshitaka Kajino, Grant J. Mathews, & Masayuki Y. Fujimoto.* 592, L67 (2003)

Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

STARS: AGB AND POST-AGB

A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

Europium Isotope Ratios in s-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching. *Wako Aoki, Sean G. Ryan, Nobuyuki Iwamoto, Timothy C. Beers, John E. Norris, Hiroyasu Ando, Toshitaka Kajino, Grant J. Mathews, & Masayuki Y. Fujimoto.* 592, L67 (2003)

The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

Isotopic Compositions of Strontium, Zirconium, Molybdenum, and Barium in Single Presolar SiC Grains and Asymptotic Giant Branch Stars. *Maria Lugaro, Andrew M. Davis, Roberto Gallino, Michael J. Pellin, Oscar Straniero, & Franz Käppeler.* 593, 486 (2003)

The s-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

Rotational Rest Frequencies for FeN ($X^2\delta_i$) and Revised Spectroscopic Constants for FeC ($X^3\delta_i$). *Lucy M. Ziurys, P.M. Sheridan, & T. Hirano.* 593, L141 (2003)

STARS: ATMOSPHERES

Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)

Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

STARS: BINARIES: CLOSE

A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

Prospects for the Detection of Electromagnetic Counterparts to Gravitational Wave Events. *Julien Sylvestre.* 591, 1152 (2003)

WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

Warping of Accretion Disks with Magnetically Driven Outflows: A Possible Origin for Jet Precession. *Dong Lai.* 591, L119 (2003)

Dynamical Formation of Close Binary Systems in Globular Clusters. *David Pooley, Walter H. G. Lewin, Scott F. Anderson, Holger Baumgardt, Alexei V. Filippenko, Bryan M. Gaensler, Lee Homer, Piet Hut, Victoria M. Kaspi, Junichiro Makino, Bruce Margon, Steve McMillan, Simon Portegies Zwart, Michiel van der Klis, & Frank Verbunt.* 591, L131 (2003)

No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

Chandra Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

Cataclysmic Variable Evolution with Circumbinary Disks. *Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus.* 592, 1124 (2003)

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

Phase Coherent Timing of RX J0806.3+1527 with *ROSAT* and *Chandra*. *Tod E. Strohmayer.* 593, L39 (2003)

X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

STARS: BINARIES: ECLIPSING

Finding White Dwarfs with Transit Searches. *Alison J. Farmer & Eric Agol.* 592, 1151 (2003)

Expected Detection and False Alarm Rates for Transiting Jovian Planets. *Timothy M. Brown.* 593, L125 (2003)

STARS: BINARIES: GENERAL

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

STARS: BINARIES: SPECTROSCOPIC

On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

STARS: CHEMICALLY PECULIAR

The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows, James Liebert, I. Neill Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean.* 592, 1186 (2003)

STARS: CIRCUMSTELLAR MATTER

The Mid-Infrared–emitting Dust around AB Aurigae. *C. H. Chen & M. Jura.* 591, 267 (2003)

Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

Spiral Arms in Accretion Discs Encounters. *S. Pfalzner.* 592, 986 (2003)

Magnetic Roster Winds and Keplerian Disks of Hot Stars. *M. Maheswaran.* 592, 1156 (2003)

Observations of DG Tauri with the Keck Interferometer. *M. Colavita, R. Akeson, P. Wizinowich, M. Shao, S. Acton, J. Beletic, J. Bell, J. Berlin, A. Boden, A. Booth, R. Boutell, F. Chaffee, D. Chan, J. Chock, R. Cohen, S. Crawford, M. Creech-Eakman, G. Eychaner, C. Felizardo, J. Gathright, G. Hardy, H. Henderson, J. Herstein, M. Hess, E. Hovland, M. Hrynevych, R. Johnson, J. Kelley, R. Kendrick, C. Koresko, P. Kurpis, D. Le Mignant, H. Lewis, E. Ligon, W. Lupton, D. McBride, B. Mennesson, R. Millan-Gabet, J. Monnier, J. Moore, C. Nance, C. Neyman, A. Niessner, D. Palmer, L. Reder, A. Rudeen, T. Saloga, A. Sargent, E. Serabyn, R. Smythe, P. Stomski, K. Summers, M. Swain, P. Swanson, R. Thompson, K. Tsubota, A. Tumminello, G. van Belle, G. Vasisht, J. Vause, J. Walker, K. Wallace, & U. Wehmeier.* 592, L83 (2003)

The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

Modeling the Transport of Polarized Radiation Due to Scattering in Spherical Dust Shells. *David A. Joiner & Chun Ming Leung.* 593, 402 (2003)

First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

KH 15D: A Star Eclipsed by a Large-Scale Dusty Vortex? *Pierre Barge & M. Viton.* 593, L117 (2003)

The Astrobiology of Nucleobases. *Zan Peeters, O. Botta, S.B. Charnley, R. Ruiterkamp, & P. Ehrenfreud.* 593, L129 (2003)

STARS: CORONAE

Chandra Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

An Estimate of the Sun's *ROSAT*-PSPC X-Ray Luminosities Using *SNOE*-SXP Measurements. *Philip G. Judge, Stanley C. Solomon, & Thomas R. Ayres.* 593, 534 (2003)

STARS: EARLY-TYPE

The Mid-Infrared–emitting Dust around AB Aurigae. *C. H. Chen & M. Jura.* 591, 267 (2003)

How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

STARS: EMISSION-LINE, BE

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Magnetic Roster Winds and Keplerian Disks of Hot Stars. *M. Maheswaran.* 592, 1156 (2003)

STARS: EVOLUTION

The Implications of *Wilkinson Microwave Anisotropy Probe* Observations for Population III Star Formation Processes. *Renyue Cen.* 591, L5 (2003)

Onset of Mass Loss in Red Giants: Association with an Evolutionary Event. *D. J. Mullan & J. MacDonald.* 591, 1203 (2003)

Evolution, Explosion, and Nucleosynthesis of Core-Collapse Supernovae. *Marco Limongi & Alessandro Chieffi.* 592, 404 (2003)

The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

Cataclysmic Variable Evolution with Circumbinary Disks. *Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus.* 592, 1124 (2003)

Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

The *s*-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

STARS: FLARE

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

STARS: FORMATION

Hα Spectroscopy of Galaxies at $z > 2$: Kinematics and Star Formation. *Dawn K. Erb, Alice E. Shapley, Charles C. Steidel, Max Pettini, Kurt L. Adelberger, Matthew P. Hunt, Alan F. M. Moorwood, & Jean-Gabriel Cuby.* 591, 101 (2003)

The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

Early Structure Formation and Reionization in a Warm Dark Matter Cosmology. *Naoki Yoshida, Aaron Sokasian, Lars Hernquist, & Volker Springel.* 591, L1 (2003)

The Implications of *Wilkinson Microwave Anisotropy Probe* Observations for Population III Star Formation Processes. *Renyue Cen.* 591, L5 (2003)

Spatial Analysis of the Hα Emission in the Local Star-forming UCM Galaxies. *Pablo G. Pérez-González, Jaime Zamorano, Jesús Gallego, Alfonso Aragón-Salamanca, & Armando Gil de Paz.* 591, 827 (2003)

High-Resolution Imaging of CO Outflows in OMC-2 and OMC-3. *Jonathan P. Williams, R. L. Plambeck, & Mark H. Heyer.* 591, 1025 (2003)

Infrared Photometry of Starless Dense Cores. *D. C. Murphy & P. C. Myers.* 591, 1034 (2003)

Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

Star Formation and the Interstellar Medium in Four Dwarf Irregular Galaxies. *L. M. Young, L. van Zee, K. Y. Lo, R. C. Dohm-Palmer, & Michelle E. Beierle.* 592, 111 (2003)

Infrared Space Observatory Long-Wavelength Spectrometer Spectroscopy of Star-forming Regions in M33. *S. J. U. Higdon, J. L. Higdon, J. M. van der Hulst, & G. J. Stacey.* 592, 161 (2003)

Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

Analysis of Clumps in Molecular Cloud Models: Mass Spectrum, Shapes, Alignment, and Rotation. *Charles F. Gammie, Yen-Ting Lin, James M. Stone, & Eve C. Ostriker.* 592, 203 (2003)

High-Latitude Molecular Clouds in an H I Filament toward the MBM 53, 54, and 55 Complex: Existence of an H_2 Cloud with Low CO Intensity. *H. Yamamoto, T. Onishi, A. Mizuno, & Y. Fukui.* 592, 217 (2003)

Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

Simulations of Early Structure Formation: Primordial Gas Clouds. *Naoki Yoshida, Tom Abel, Lars Hernquist, & Naoshi Sugiyama.* 592, 645 (2003)

Giant Lyα Nebulae Associated with High-Redshift Radio Galaxies. *Michiel Reuland, Wil van Breugel, Huub Röttgering, Wim de Vries, S. A. Stanford, Arjun Dey, Mark Lacy, Joss Bland-Hawthorn, Michael Dopita, & George Miley.* 592, 755 (2003)

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

Indications of Inflow Motions in Regions Forming Massive Stars. *Neal J. Evans II & Jingwen Wu.* 592, L79 (2003)

A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

Gravitational Collapse of Filamentary Magnetized Molecular Clouds. *David A. Tilley & Ralph E. Pudritz.* 593, 426 (2003)

Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

The Hot Core around the Low-Mass Protostar IRAS 16293−2422: Scoundrels Rule! *S. Cazaux, A. G. G. M. Tielens, C. Ceccarelli, A. Castets, V. Wakelam, E. Caux, B. Parise, & D. Teyssier.* 593, L51 (2003)

First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

Molecular Evolution in Collapsing Prestellar Cores. II. The Effect of Grain-Surface Reactions. *Yuri Aikawa, Nagayoshi Ohashi, & Eric Herbst.* 593, 906 (2003)

A Class of Interstellar OH Masers Associated with Protostellar Outflows. *Alice L. Argon, Mark J. Reid, & Karl M. Menten.* 593, 925 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martín & M. R. Zapatero Osorio.* 593, L113 (2003)

STARS: FUNDAMENTAL PARAMETERS

On the Mass-Ratio Distribution of Spectroscopic Binaries. *Dorit Goldberg, Tsevi Mazeh, & David W. Latham.* 591, 397 (2003)

LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

STARS: INDIVIDUAL

Constellation Name: AB Aurigae

The Mid-Infrared–emitting Dust around AB Aurigae. *C. H. Chen & M. Jura.* 591, 267 (2003)

Constellation Name: α Bootis

Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

Constellation Name: Cygnus X-1

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

Constellation Name: Cygnus X-3

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

Constellation Name: 40 Eridani A

A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

Constellation Name: ρ Ophiuchi A

Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Constellation Name: χ Ophiuchi

Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. *S. R. Federman, David L. Lambert, Yaron Sheffer, Jason A. Cardelli, B.-G. Andersson, Ewine F. van Dishoeck, & J. Zsargó.* 591, 986 (2003)

Constellation Name: ζ Puppis

X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

Constellation Name: WZ Sagittae

WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

Hubble Space Telescope Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae. *Edward M. Sion, Boris T. Gaensicke, Knox S. Long, Paula Szkody, Fu-Hua Cheng, Steve B. Howell, Patrick Godon, William F. Welsh, Sumner Starrfield, Christian Knigge, & Warren M. Sparks.* 592, 1137 (2003)

Constellation Name: Scorpius X-1

The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

Constellation Name: T Tauri

The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

Constellation Name: V773 Tauri

No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

Henry Draper Number: HD 12661

The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

Henry Draper Number: HD 14434

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

Henry Draper Number: HD 37124

The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

Henry Draper Number: HD 70642

A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

Henry Draper Number: HD 82943

The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

Henry Draper Number: HD 91316

Variable Na I Absorption toward ρ Leonis: Biased Neutral Formation in the Diffuse Interstellar Medium? *J. T. Lauroesch & David M. Meyer.* 591, L123 (2003)

Name: Elias 25

A Test Case for the Organic Refractory Model of Interstellar Dust. *S. S. Shenoy, D. C. B. Whittet, J. E. Chiar, A. J. Adamson, W. G. Roberge, & G. E. Hassel.* 591, 962 (2003)

Alphanumeric: A0620−00

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Alphanumeric: CFHT-BD-Tau 4

First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

Alphanumeric: CRL 2688

The Salty Scrambled Egg: Detection of NaCl toward CRL 2688. *J. L. Highberger, K. J. Thomson, P. A. Young, D. Arnett, & L. M. Ziurys.* 593, 393 (2003)

Alphanumeric: EUVE J0317−85.5

A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

Alphanumeric: GRS 1915+105

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

Alphanumeric: KH 15D

Natural Coronagraphics Observations of the Eclipsing T Tauri System KH 15D: Evidence of Accretion and Bipolar Outflow in a Weak-Line T Tauri Star. *Catrina M. Hamilton, William Herbst, Reinhard Mundt, Coryn A. L. Bailer-Jones, & Christopher M. Johns-Krull.* 591, L45 (2003)

Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

Alphanumeric: 2MASS J05325346+8246465

The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows, James Liebert, I. Niell Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean.* 592, 1186 (2003)

Alphanumeric: RX J0806.3+1527

Phase Coherent Timing of RX J0806.3+1527 with *ROSAT* and *Chandra*. *Tod E. Strohmayer.* 593, L39 (2003)

Alphanumeric: RX J1856.5−3754

Isolated Magnetar Spin-Down, Soft X-Ray Emission, and RX J1856.5−3754. *Kaya Mori & Malvin A. Ruderman.* 592, L75 (2003)

ALphanumeric: RX J1914.4+2456

Phase Coherent Timing of RX J0806.3+1527 with *ROSAT* and *Chandra*. *Tod E. Strohmayer.* 593, L39 (2003)

Alphanumeric: SGR 1900+14

The Radio Afterglow from the Giant Flare of SGR 1900+14: The Same Mechanism as Afterglows from Classic Gamma-Ray Bursts? *X.Y. Wang & K.S. Cheng.* 593, L85 (2003)

Alphanumeric: 4U 1700−37

Chandra Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Sueqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

Alphanumeric: 4U 1728−34

The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

Alphanumeric: XTE J1118+480

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Alphanumeric: XTE J1550−564

External Shock Model for the Large-Scale, Relativistic X-Ray Jets from the Microquasar XTE J1550−564. *X. Y. Wang, Z. G. Dai, & T. Lu.* 592, 347 (2003)

Alphanumeric: XTE J1650−500

X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

STARS: INTERIORS

A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

Evolution, Explosion, and Nucleosynthesis of Core-Collapse Supernovae. *Marco Limongi & Alessandro Chieffi.* 592, 404 (2003)

Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

The *s*-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

STARS: KINEMATICS

Chemical Abundances of Old Metal-rich Stars in the Solar Neighborhood. *Y. Q. Chen, G. Zhao, P. E. Nissen, G. S. Bai, & H. M. Qiu.* 591, 925 (2003)

ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

Sagittarius A* Companion S0-2: A Probe of Very High Mass Star Formation. *Andrew Gould & Alice C. Quillen.* 592, 935 (2003)

An Upper Limit on the Granularity of the Local Stellar Halo. *Andrew Gould.* 592, L63 (2003)

STARS: LATE-TYPE

LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

Detailed Analysis of Nearby Bulgelike Dwarf Stars. III. α-Element and Heavy-Element Abundances. *Luciana Pompéia, Beatriz Barbuy, & Michel Grenon.* 592, 1173 (2003)

The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

STARS: LOW-MASS, BROWN DWARFS

LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows, James Liebert, I. Niell Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean.* 592, 1186 (2003)

First Detection of Millimeter Dust Emission from Brown Dwarf Disks. *R. Klein, D. Apai, I. Pascucci, Th. Henning, & L. B. F. M. Waters.* 593, L57 (2003)

Gravity Indicators in the Near-Infrared Spectra of Brown Dwarfs. *N. I. Gorlova, M. R. Meyer, G. H. Rieke, & J. Liebert.* 593, 1074 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martin & M. R. Zapatero Osorio.* 593, L113 (2003)

STARS: LUMINOSITY FUNCTION, MASS FUNCTION

Stellar Contribution to the Galactic Bulge Microlensing Optical Depth. *Cheongho Han & Andrew Gould.* 592, 172 (2003)

Constraints on a Universal Initial Mass Function from Ultraviolet to Near-Infrared Galaxy Luminosity Densities. *Ivan K. Baldry & Karl Glazebrook.* 593, 258 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martin & M. R. Zapatero Osorio.* 593, L113 (2003)

STARS: MAGNETIC FIELDS

Onset of Mass Loss in Red Giants: Association with an Evolutionary Event. *D. J. Mullan & J. MacDonald.* 591, 1203 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

Magnetic Roster Winds and Keplerian Disks of Hot Stars. *M. Maheswaran.* 592, 1156 (2003)

Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

Chandra Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

STARS: MASS LOSS

A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtílek, & Jingqiang Li.* 591, L37 (2003)

WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froning, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

Onset of Mass Loss in Red Giants: Association with an Evolutionary Event. *D. J. Mullan & J. MacDonald.* 591, 1203 (2003)

Multiwavelength Spectroscopy of the Bipolar Outflow from Cepheus E. *Michael D. Smith, Dirk Froebrich, & Jochen Eislöffel.* 592, 245 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

STARS: NEUTRON

How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

Rayleigh-Taylor Gravity Waves and Quasi-periodic Oscillation Phenomena in X-Ray Binaries. *Lev Titarchuk.* 591, 354 (2003)

X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

The Role of Helium Stars in the Formation of Double Neutron Stars. *N. Ivanova, K. Belczynski, V. Kalogera, F. A. Rasio, & R. E. Taam.* 592, 475 (2003)

The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

Chandra Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

Linear Stability Analysis of Differentially Rotating Polytropes: New Results for the $M = 2$ F-Mode Dynamical Instability. *Shigeyuki Karino & Yoshiharu Eriguchi.* 592, 1119 (2003)

Isolated Magnetar Spin-Down, Soft X-Ray Emission, and RX J1856.5−3754. *Kaya Mori & Malvin A. Ruderman.* 592, L75 (2003)

Low-Mass Neutron Stars and the Equation of State of Dense Matter. *J. Carriere, C. J. Horowitz, & J. Piekarewicz.* 593, 463 (2003)

Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)

The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

On the Enhanced X-Ray Emission from SGR 1900+14 after the August 27 Giant Flare. *Unal Ertan & M.A. Alpar.* 593, L93 (2003)

STARS: NOVAE, CATACLYSMIC VARIABLES

Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

WZ Sagittae: *FUSE* Spectroscopy of the 2001 Outburst. *Knox S. Long, Cynthia S. Froming, Boris Gänsicke, Christian Knigge, Edward M. Sion, & Paula Szkody.* 591, 1172 (2003)

On Resonance-Line Profiles Predicted by Radiation-driven Disk-Wind Models. *Daniel Proga.* 592, L9 (2003)

Cataclysmic Variable Evolution with Circumbinary Disks. *Ronald E. Taam, Eric L. Sandquist, & Guillaume Dubus.* 592, 1124 (2003)

Hubble Space Telescope Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae. *Edward M. Sion, Boris T. Gaensicke, Knox S. Long, Paula Szkody, Fu-Hua Cheng, Steve B. Howell, Patrick Godon, William F. Welsh, Sumner Starrfield, Christian Knigge, & Warren M. Sparks.* 592, 1137 (2003)

Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

STARS: OSCILLATIONS

Rayleigh-Taylor Gravity Waves and Quasi-periodic Oscillation Phenomena in X-Ray Binaries. *Lev Titarchuk.* 591, 354 (2003)

Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

Oscillations in Arcturus from *WIRE* Photometry. *Alon Retter, Timothy R. Bedding, Derek L. Buzasi, Hans Kjeldsen, & László L. Kiss.* 591, L151 (2003)

Linear Stability Analysis of Differentially Rotating Polytropes: New Results for the $M = 2$ F-Mode Dynamical Instability. *Shigeyuki Karino & Yoshiharu Eriguchi.* 592, 1119 (2003)

A Theoretical γ Doradus Instability Strip. *Phillip B. Warner, Anthony B. Kaye, & Joyce A. Guzik.* 593, 1049 (2003)

STARS: PLANETARY SYSTEMS

Resolving the Microlens Mass Degeneracy for Earth-Mass Planets. *Andrew Gould, B. Scott Gaudi, & Cheongho Han.* 591, L53 (2003)

The Librating Companions in HD 37124, HD 12661, HD 82943, 47 Ursa Majoris, and GJ 876: Alignment or Antialignment? *Jianghui Ji, Lin Liu, Hiroshi Kinoshita, Jilin Zhou, Hiroshi Nakai, & Guangyu Li.* 591, L57 (2003)

Masses and Orbital Inclinations of Planets in the PSR B1257+12 System. *Maciej Konacki & Alex Wolszczan.* 591, L147 (2003)

Early-Type Stars: Most Favorable Targets for Astrometrically Detectable Planets in the Habitable Zone. *Andrew Gould, Eric B. Ford, & Debra A. Fischer.* 591, L155 (2003)

Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

On the Radii of Extrsolar Giant Planets. *Peter Bodenheimer, Gregory Laughlin, & Douglas N. C. Lin.* 592, 555 (2003)

Finding White Dwarfs with Transit Searches. *Alison J. Farmer & Eric Agol.* 592, 1151 (2003)

Secular Evolution of Hierarchical Planetary Systems. *Man Hoi Lee & S. J. Peale.* 592, 1201 (2003)

Ellipsoidal Variability in the OGLE Planetary Transit Candidates. *E. Sirko & B. Paczyński.* 592, 1217 (2003)

A Planet in a Circular Orbit with a 6 Year Period. *Brad D. Carter, R. Paul Butler, C. G. Tinney, Hugh R. A. Jones, Geoffrey W. Marcy, Chris McCarthy, Debra A. Fischer, & Alan J. Penny.* 593, L43 (2003)

Extrasolar Planets in Mean-Motion Resonance: Apses Alignment and Asymmetric Stationary Solutions. *C. Beaugé, S. Ferraz-Mello, & T. A. Michtchenko.* 593, 1124 (2003)

KH 15D: A Star Eclipsed by a Large-Scale Dusty Vortex? *Pierre Barge & M. Viton.* 593, L117 (2003)

Expected Detection and False Alarm Rates for Transiting Jovian Planets. *Timothy M. Brown.* 593, L125 (2003)

STARS: PLANETARY SYSTEMS: FORMATION

The Mid-Infrared–emitting Dust around AB Aurigae. *C. H. Chen & M. Jura.* 591, 267 (2003)

Surface Outflow in Optically Thick Dust Disks by Radiation Pressure. *Taku Takeuchi & D. N. C. Lin.* 593, 524 (2003)

Radiative Transfer on Perturbations in Protoplanetary Disks. *Hannah Jang-Condell & Dimitar D. Sasselov.* 593, 1116 (2003)

Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martín & M. R. Zapatero Osorio.* 593, L113 (2003)

STARS: PLANETARY SYSTEMS: PROTOPLANETARY DISKS

No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

Evaporation of Interstellar Organic Materials in the Solar Nebula. *Hideyuki Nakano, Akira Kouchi, Shogo Tachibana, & Akira Tsuchiyama.* 592, 1252 (2003)

Radiative Transfer on Perturbations in Protoplanetary Disks. *Hannah Jang-Condell & Dimitar D. Sasselov.* 593, 1116 (2003)

Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

STARS: POPULATION II

The Extremely Metal-poor, Neutron Capture–rich Star CS 22892−052: A Comprehensive Abundance Analysis. *Christopher Sneden, John J. Cowan, James E. Lawler, Inese I. Ivans, Scott Burles, Timothy C. Beers, Francesca Primas, Vanessa Hill, James W. Truran, George M. Fuller, Bernd Pfeiffer, & Karl-Ludwig Kratz.* 591, 936 (2003)

Binary Blue Metal-Poor Stars: Evidence for Asymptotic Giant Branch Mass Transfer. *Christopher Sneden, George W. Preston, & John J. Cowan.* 592, 504 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

Europium Isotope Ratios in s-Process Element-enhanced Metal-poor Stars: A New Probe of the ^{151}Sm Branching. *Wako Aoki, Sean G. Ryan, Nobuyuki Iwamoto, Timothy C. Beers, John E. Norris, Hiroyasu Ando, Toshitaka Kajino, Grant J. Mathews, & Masayuki Y. Fujimoto.* 592, L67 (2003)

STARS: PRE–MAIN-SEQUENCE

The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

Two-dimensional Radiative Transfer in Protostellar Envelopes. I. Effects of Geometry on Class I Sources. *Barbara A. Whitney, Kenneth Wood, J. E. Bjorkman, & Michael J. Wolff.* 591, 1049 (2003)

A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

Neutral Hydrogen Associated with NGC 7129. *H. E. Matthews, C. R. Purton, R. S. Roger, P. E. Dewdney, & G. F. Mitchell.* 592, 176 (2003)

Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

Accretion in Young Stellar/Substellar Objects. *James Muzerolle, Lynne Hillenbrand, Nuria Calvet, César Briceño, & Lee Hartmann.* 592, 266 (2003)

Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

No Fossil Disk in the T Tauri Multiple System V773 Tauri. *G. Duchêne, A. M. Ghez, C. McCabe, & A. J. Weinberger.* 592, 288 (2003)

Observations of DG Tauri with the Keck Interferometer. *M. Colavita, R. Akeson, P. Wizinowich, M. Shao, S. Acton, J. Beletic, J. Bell, J. Berlin, A. Boden, A. Booth, R. Boutell, F. Chaffee, D. Chan, J. Chock, R. Cohen, S. Crawford, M. Creech-Eakman, G. Eychaner, C. Felizardo, J. Gathright, G. Hardy, H. Henderson, J. Herstein, M. Hess, E. Hovland, M. Hrynevych, R. Johnson, J. Kelley, R. Kendrick, C. Koresko, P. Kurpis, D. Le Mignant, H. Lewis, E. Ligon, W. Lupton, D. McBride, B. Mennesson, R. Millan-Gabet, J. Monnier, J. Moore, C. Nance, C. Neyman, A. Niessner, D. Palmer, L. Reder, A. Rudeen, T. Saloga, A. Sargent, E. Serabyn, R. Smythe, P. Stomski, K. Summers, M. Swain, P. Swanson, R. Thompson, K. Tsubota, A. Tumminello, G. van Belle, G. Vasisht, J. Vause, J. Walker, K. Wallace, & U. Wehmeier.* 592, L83 (2003)

Blowout from IC 1396N: The Emergence of Herbig-Haro Flows from a Cloud Core. *Bo Reipurth, Tina Armond, Alex Raga, & John Bally.* 593, L47 (2003)

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

A Census of the Young Cluster IC 348. *K. L. Luhman, John R. Stauffer, A. A. Muench, G. H. Rieke, E. A. Lada, J. Bouvier, & C. J. Lada.* 593, 1093 (2003)

Indications for Grain Growth and Mass Decrease in Cold Dust Disks around Classical T Tauri Stars in the MBM 12 Young Association. *Michiel R. Hogerheijde, Doug Johnstone, Isamu Matsuyama, Ray Jayawardhana, & James Muzerolle.* 593, L101 (2003)

Magellan Echelle Spectroscopy of TW Hydrae Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & David Barrado y Navascues.* 593, L109 (2003)

KH 15D: A Star Eclipsed by a Large-Scale Dusty Vortex? *Pierre Barge & M. Viton.* 593, L117 (2003)

Limits on Eclipses of the Pre–Main-Sequence Star KH 15D in the First Half of the 20th Century. *Joshua N. Winn, Peter M. Garnavich, K. Z. Stanek, & Dimitar D. Sasselov.* 593, L121 (2003)

STARS: PULSARS: GENERAL

X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

Dissipation in Poynting-Flux–dominated Flows: The σ-Problem of the Crab Pulsar Wind. *J. G. Kirk & O. Skjaeraasen.* 591, 366 (2003)

PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics. *M. A. McLaughlin, I. H. Stairs, V. M. Kaspi, D. R. Lorimer, M. Kramer, A. G. Lyne, R. N. Manchester, F. Camilo, G. Hobbs, A. Possenti, N. D'Amico, & A. J. Faulkner.* 591, L135 (2003)

Chandra Detection of a Pulsar Wind Nebula Associated with Supernova Remnant 3C 396. *C. M. Olbert, J. W. Keohane, K. A. Arnaud, K. K. Dyer, S. P. Reynolds, & S. Safi-Harb.* 592, L45 (2003)

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

STARS: PULSARS: INDIVIDUAL

Name: Crab Pulsar

Dissipation in Poynting-Flux–dominated Flows: The σ-Problem of the Crab Pulsar Wind. *J. G. Kirk & O. Skjaeraasen.* 591, 366 (2003)

Name: Geminga

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Name: Vela pulsar

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

Constraints on Pulsar Magnetospheric and Wind Parameters for the Compact Nebulae of Vela and PSR B1706−44. *Ramotholo R. Sefako & Ocker C. de Jager.* 593, 1013 (2003)

Alphanumeric: PSR 1706−44

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Alphanumeric: PSR B0656+14

Pulsar PSR B0656+14, the Monogem Ring, and the Origin of the "Knee" in the Primary Cosmic-Ray Spectrum. *S. E. Thorsett, R. A. Benjamin, Walter F. Brisken, A. Golden, & W. M. Goss.* 592, L71 (2003)

The Distance and Radius of the Neutron Star PSR B0656+14. *Walter F. Brisken, S.E. Thorsett, A. Golden, & W.M. Goss.* 593, L89 (2003)

Alphanumeric: PSR B1055−52

Electrodynamics of an Outer Gap Accelerator: Formation of a Soft Power-Law Spectrum between 100 MeV and 3 GeV. *Kouichi Hirotani, Alice K. Harding, & Shinpei Shibata.* 591, 334 (2003)

Alphanumeric: PSR B1257+12

Masses and Orbital Inclinations of Planets in the PSR B1257+12 System. *Maciej Konacki & Alex Wolszczan.* 591, L147 (2003)

Alphanumeric: PSR B1706−44

Constraints on Pulsar Magnetospheric and Wind Parameters for the Compact Nebulae of Vela and PSR B1706−44. *Ramotholo R. Sefako & Ocker C. de Jager.* 593, 1013 (2003)

Alphanumeric: PSR J0538+2817

Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

The Proper Motion, Age, and Initial Spin Period of PSR J0538+2817 in S147. *M. Kramer, A. G. Lyne, G. Hobbs, O. Löhmer, P. Carr, C. Jordan, & A. Wolszczan.* 593, L31 (2003)

Alphanumeric: PSR J1119−6127

Chandra Detection of the High Magnetic Field Radio Pulsar J1119−6127 in the Supernova Remnant G292.2−0.5. *Marjorie Gonzalez & Samar Safi-Harb.* 591, L143 (2003)

Alphanumeric: PSR J1124−5916

An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Alphanumeric: PSR J1713−3945

X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

Alphanumeric: SGR 1900+14

On the Enhanced X-Ray Emission from SGR 1900+14 after the August 27 Giant Flare. *Unal Ertan & M.A. Alpar.* 593, L93 (2003)

STARS: ROTATION

Linear Stability Analysis of Differentially Rotating Polytropes: New Results for the $M = 2$ F-Mode Dynamical Instability. *Shigeyuki Karino & Yoshiharu Eriguchi.* 592, 1119 (2003)

Magnetic Roster Winds and Keplerian Disks of Hot Stars. *M. Maheswaran.* 592, 1156 (2003)

Canonical Extra Mixing in Low-Mass Red Giants. *Pavel A. Denissenkov & Don A. VandenBerg.* 593, 509 (2003)

The s-Process in Rotating Asymptotic Giant Branch Stars. *Falk Herwig, Norbert Langer, & Maria Lugaro.* 593, 1056 (2003)

STARS: STATISTICS

An Upper Limit on the Granularity of the Local Stellar Halo. *Andrew Gould.* 592, L63 (2003)

STARS: SUBDWARFS

LSR 1610−0040: The First Early-Type L Subdwarf. *Sébastien Lépine, R. Michael Rich, & Michael M. Shara.* 591, L49 (2003)

The First Substellar Subdwarf? Discovery of a Metal-poor L Dwarf with Halo Kinematics. *Adam J. Burgasser, J. Davy Kirkpatrick, Adam Burrows,*

James Liebert, I. Niell Reid, John E. Gizis, Mark R. McGovern, L. Prato, & Ian S. McLean. 592, 1186 (2003)

An Upper Limit on the Granularity of the Local Stellar Halo. *Andrew Gould.* 592, L63 (2003)

STARS: SUPERNOVAE: GENERAL

The Universe Was Reionized Twice. *Renyue Cen.* 591, 12 (2003)

Actinides in the Source of Cosmic Rays and the Present Interstellar Medium. *R. E. Lingenfelter, J. C. Higdon, K.-L. Kratz, & B. Pfeiffer.* 591, 228 (2003)

How Massive Single Stars End Their Life. *A. Heger, C. L. Fryer, S. E. Woosley, N. Langer, & D. H. Hartmann.* 591, 288 (2003)

Near-Infrared Spectra of Type Ia Supernovae. *G. H. Marion, P. Höflich, W. D. Vacca, & J. C. Wheeler.* 591, 316 (2003)

Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329. *K. Z. Stanek, T. Matheson, P. M. Garnavich, P. Martini, P. Berlind, N. Caldwell, P. Challis, W. R. Brown, R. Schild, K. Krisciunas, M. L. Calkins, J. C. Lee, N. Hathi, R. A. Jansen, R. Windhorst, L. Echevarria, D. J. Eisenstein, B. Pindor, E. W. Olszewski, P. Harding, S. T. Holland, & D. Bersier.* 591, L17 (2003)

Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova. *Lifan Wang, Dietrich Baade, Peter Höflich, Alexei Khokhlov, J. Craig Wheeler, D. Kasen, Peter E. Nugent, Saul Perlmutter, Claes Fransson, & Peter Lundqvist.* 591, 1110 (2003)

ω Centauri: Not a Recent Merger but Self-enriched? *Imants Platais, Rosemary F. G. Wyse, Leslie Hebb, Young-Wook Lee, & Soo-Chang Rey.* 591, L127 (2003)

Prospects for the Determination of H_0 through Observation of Multiply Imaged Supernovae in Galaxy Cluster Fields. *Adam S. Bolton & Scott Burles.* 592, 17 (2003)

Evolution, Explosion, and Nucleosynthesis of Core-Collapse Supernovae. *Marco Limongi & Alessandro Chieffi.* 592, 404 (2003)

Shock Breakout in Core-Collapse Supernovae and Its Neutrino Signature. *Todd A. Thompson, Adam Burrows, & Philip A. Pinto.* 592, 434 (2003)

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery. *Yuzuru Yoshii, Hiroyuki Tomita, Yukiyasu Kobayashi, Jinsong Deng, Keiichi Maeda, Ken'ichi Nomoto, Paolo A. Mazzali, Hideyuki Umeda, Tsutomu Aoki, Mamoru Doi, Keigo Enya, Takeo Minezaki, Masahiro Suganuma, & Bruce A. Peterson.* 592, 467 (2003)

Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

Chemical Substructure in the Milky Way Halo: A New Population of Old Stars. *Inese I. Ivans, Christopher Sneden, C. Renée James, George W. Preston, Jon P. Fulbright, Peter A. Höflich, Bruce W. Carney, & J. Craig Wheeler.* 592, 906 (2003)

Global Anisotrophy versus Small-Scale Fluctuations in Neutrino Flux in Core-Collapse Supernova Explosions. *Hideki Madokoro, Tetsuya Shimizu, & Yuko Mochizuki.* 592, 1035 (2003)

Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329. *K. S. Kawabata, J. Deng, L. Wang, P. Mazzali, K. Nomoto, K. Maeda, N. Tominaga, H. Umeda, M. Iye, G. Kosugi, Y. Ohyama, T. Sasaki, P. Höflich, J. C. Wheeler, D. J. Jeffery, K. Aoki, N. Kashikawa, T. Takata, N. Kawai, T. Sakamoto, Y. Urata, A. Yoshida, T. Tamagawa, K. Torii, W. Aoki, N. Kobayashi, Y. Komiyama, Y. Mizumoto, J. Noumaru, R. Ogasawara, K. Sekiguchi, Y. Shirasaki, T. Totani, J. Watanabe, & T. Yamada.* 593, L19 (2003)

Cassiopeia A and Its Clumpy Presupernova Wind. *Roger A. Chevalier & Jeffrey Oishi.* 593, L23 (2003)

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

The r-Process in Supernovae Explosions from the Collapse of O-Ne-Mg Cores. *Shinya Wanajo, Masaya Tamamura, Naoki Itoh, Ken'ichi Nomoto, Yuhri Ishimaru, Timothy C. Beers, & Satoshi Nozawa.* 593, 968 (2003)

Radio Imaging of Gamma-Ray Burst Jets in Nearby Supernovae. *Jonathan Granot & Abraham Loeb.* 593, L81 (2003)

STARS: SUPERNOVAE: INDIVIDUAL

Alphanumeric: SN 1979C

SN 1979C VLBI: 22 Years of Almost Free Expansion. *Norbert Bartel & Michael F. Bietenholz.* 591, 301 (2003)

Alphanumeric: SN 1987A

Search for TeV Gamma Rays from SN 1987A in 2001. *R. Enomoto, L. T. Ksenofontov, H. Katagiri, K. Tsuchiya, A. Asahara, G. V. Bicknell, R. W. Clay, P. G. Edwards, S. Gunji, S. Hara, T. Hara, H. Hattori, Sei. Hayashi, Shin. Hayashi, C. Itoh, S. Kabuki, F. Kajino, A. Kawachi, T. Kifune, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Naito, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, J. R. Patterson, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, H. Tsunoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 591, L25 (2003)

Hubble Space Telescope Observations of High-Velocity Lyα and Hα Emission from Supernova Remnant 1987A: The Structure and Development of the Reverse Shock. *Eli Michael, Richard McCray, Roger Chevalier, Alexei V. Filippenko, Peter Lundqvist, Peter Challis, Ben Sugerman, Stephen Lawrence, C. S. J. Pun, Peter Garnavich, Robert Kirshner, Arlin Crotts, Claes Fransson, Weidong Li, Nino Panagia, Mark Phillips, Brian Schmidt, George Sonneborn, Nicholas Suntzeff, Lifan Wang, & J. Craig Wheeler.* 593, 809 (2003)

Alphanumeric: SN 1997ef

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

Alphanumeric: SN 1998bw

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

Alphanumeric: SN 2001el

Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova. *Lifan Wang, Dietrich Baade, Peter Höflich, Alexei Khokhlov, J. Craig Wheeler, D. Kasen, Peter E. Nugent, Saul Perlmutter, Claes Fransson, & Peter Lundqvist.* 591, 1110 (2003)

Analysis of the Flux and Polarization Spectra of the Type Ia Supernova SN 2001el: Exploring the Geometry of the High-Velocity Ejecta. *Daniel Kasen, Peter Nugent, Lifan Wang, D. A. Howell, J. Craig Wheeler, Peter Höflich, Dietrich Baade, E. Baron, & P. H. Hauschildt.* 593, 788 (2003)

Alphanumeric: SN 2001gd

Radio Emission from SN 2001gd in NGC 5033. *Christopher J. Stockdale, Kurt W. Weiler, Schuyler D. Van Dyk, Marcos J. Montes, Nino Panagia, Richard A. Sramek, M. A. Perez-Torres, & J. M. Marcaide.* 592, 900 (2003)

Alphanumeric: SN 2002ap

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery. *Yuzuru Yoshii, Hiroyuki Tomita, Yukiyasu Kobayashi, Jinsong Deng, Keiichi Maeda, Ken'ichi Nomoto, Paolo A. Mazzali, Hideyuki Umeda, Tsutomu Aoki, Mamoru Doi, Keigo Enya, Takeo Minezaki, Masahiro Suganuma, & Bruce A. Peterson.* 592, 467 (2003)

A Two-Component Model for the Light Curves of Hypernovae. *Keiichi Maeda, Paolo A. Mazzali, Jingsong Deng, Ken'ichi Nomoto, Yuzuru Yoshii, Hiroyuki Tomita, & Yukiyasu Kobayashi.* 593, 931 (2003)

Alphanumeric: SN 2003dh

Spectroscopic Discovery of the Supernova 2003dh Associated with GRB 030329. *K. Z. Stanek, T. Matheson, P. M. Garnavich, P. Martini, P. Berlind, N. Caldwell, P. Challis, W. R. Brown, R. Schild, K. Krisciunas, M. L. Calkins, J. C. Lee, N. Hathi, R. A. Jansen, R. Windhorst, L. Echevarria, D. J. Eisenstein, B. Pindor, E. W. Olszewski, P. Harding, S. T. Holland, & D. Bersier.* 591, L17 (2003)

On the Spectrum and Spectropolarimetry of Type Ic Hypernova SN 2003dh/GRB 030329. *K. S. Kawabata, J. Deng, L. Wang, P. Mazzali, K. Nomoto, K. Maeda, N. Tominaga, H. Umeda, M. Iye, G. Kosugi, Y. Ohyama, T. Sasaki, P. Höflich, J. C. Wheeler, D. J. Jeffery, K. Aoki, N. Kashikawa, T. Takata, N. Kawai, T. Sakamoto, Y. Urata, A. Yoshida, T. Tamagawa, K. Torii, W. Aoki, N. Kobayashi, Y. Komiyama,*

Y. Mizumoto, J. Noumaru, R. Ogasawara, K. Sekiguchi, Y. Shirasaki, T. Totani, J. Watanabe, & T. Yamada. 593, L19 (2003)

STARS: VARIABLES: CEPHEIDS

Reanalysis of Very Large Telescope Data for M83 with Image Subtraction—Ninefold Increase in Number of Cepheids. *A. Z. Bonanos & K. Z. Stanek.* 591, L111 (2003)

A Bayesian Analysis of the Cepheid Distance Scale. *Thomas G. Barnes III, W. H. Jefferys, J. O. Berger, Peter J. Mueller, K. Orr, & R. Rodriguez.* 592, 539 (2003)

STARS: VARIABLES: OTHER

A Theoretical γ Doradus Instability Strip. *Phillip B. Warner, Anthony B. Kaye, & Joyce A. Guzik.* 593, 1049 (2003)

STARS: WHITE DWARFS

A Confirmation of the Optical Spectroscopy Approach: Discovery of Two More Pulsating DA (ZZ Ceti) White Dwarfs. *G. Fontaine, P. Bergeron, M. Billères, & S. Charpinet.* 591, 1184 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Hubble Space Telescope Spectroscopy of the Unexpected 2001 July Outburst of the Dwarf Nova WZ Sagittae. *Edward M. Sion, Boris T. Gaensicke, Knox S. Long, Paula Szkody, Fu-Hua Cheng, Steve B. Howell, Patrick Godon, William F. Welsh, Sumner Starrfield, Christian Knigge, & Warren M. Sparks.* 592, 1137 (2003)

Finding White Dwarfs with Transit Searches. *Alison J. Farmer & Eric Agol.* 592, 1151 (2003)

Chandra Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

Phase Coherent Timing of RX J0806.3+1527 with *ROSAT* and *Chandra*. *Tod E. Strohmayer.* 593, L39 (2003)

A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

STARS: WINDS, OUTFLOWS

The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

A Compact X-Ray Source and Possible X-Ray Jets within the Planetary Nebula Menzel 3. *Joel H. Kastner, Bruce Balick, Eric G. Blackman, Adam Frank, Noam Soker, Saeqa D. Vrtilek, & Jingqiang Li.* 591, L37 (2003)

The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

Magnetic Roster Winds and Keplerian Disks of Hot Stars. *M. Maheswaran.* 592, 1156 (2003)

STELLAR DYNAMICS

Effects of Wandering on the Coalescence of Black Hole Binaries in Galactic Centers. *Pinaki Chatterjee, Lars Hernquist, & Abraham Loeb.* 592, 32 (2003)

Parametric Dwarf Spheroidal Tidal Interaction. *Jean-Julien Fleck & J. R. Kuhn.* 592, 147 (2003)

The Origin of IRS 16: Dynamically Driven Inspiral of a Dense Star Cluster to the Galactic Center? *Simon F. Portegies Zwart, Stephen L. W. McMillan, & Ortwin Gerhard.* 593, 352 (2003)

Monte Carlo Simulations of Globular Cluster Evolution. III. Primordial Binary Interactions. *J. M. Fregeau, M. A. Gürkan, K. J. Joshi, & F. A. Rasio.* 593, 772 (2003)

SUBMILLIMETER

Magnetic Field Evolution in Bok Globules. *Sebastian Wolf, R. Launhardt, & T. Henning.* 592, 233 (2003)

SUN: ABUNDANCES

Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

Solar System Abundances and Condensation Temperatures of the Elements. *Katharina Lodders.* 591, 1220 (2003)

The Variability of the Solar Coronal Helium Abundance: Polar Coronal Holes Compared to the Quiet Sun. *J. Martin Laming & Uri Feldman.* 591, 1257 (2003)

Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

SUN: ACTIVITY

Periodicities in Solar Flare Occurrence: Analysis of Cycles 19–23. *T. Bai.* 591, 406 (2003)

Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

SUN: ATMOSPHERE

Magnetic Fields in the Quiet Sun: Observational Discrepancies and Unresolved Structure. *H. Socas-Navarro & J. Sánchez Almeida.* 593, 581 (2003)

Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

SUN: CHROMOSPHERE

Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

SUN: CORONA

Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

The Variability of the Solar Coronal Helium Abundance: Polar Coronal Holes Compared to the Quiet Sun. *J. Martin Laming & Uri Feldman.* 591, 1257 (2003)

Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

Properties of Solar Plasmas near Solar Maximum above Two Quiet Regions at Distances of 1.02–1.34 $R_\odot$. *E. Landi & U. Feldman.* 592, 607 (2003)

On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

An Estimate of the Sun's *ROSAT*-PSPC X-Ray Luminosities Using *SNOE*-SXP Measurements. *Philip G. Judge, Stanley C. Solomon, & Thomas R. Ayres.* 593, 534 (2003)

Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

Evolving Active Region Loops Observed With the *Transition Region and Coronal Explorer*. I. Observations. *Amy R. Winebarger, Harry P. Warren, & Daniel B. Seaton.* 593, 1164 (2003)

Evolving Active Region Loops Observed with the *Transition Region and Coronal Explorer*. II. Time-Dependent Hydrodynamic Simulations. *Harry P. Warren, Amy R. Winebarger, & John T. Mariska.* 593, 1174 (2003)

Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

Role of Magnetic Flux Distribution in Coronal Energy Storage. *Richard Wolfson.* 593, 1208 (2003)

Helicity Evolution in Emerging Active Regions. *Alexei A. Pevtsov, Vasily M. Maleev, & Dana W. Longcope.* 593, 1217 (2003)

Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

SUN: CORONAL MASS EJECTIONS (CMES)

Coronal Mass Ejections, the Tail of the Solar Wind Magnetic Field Distribution, and 11 Year Cosmic-Ray Modulation at 1 AU. *E. W. Cliver, A. G. Ling, & I. G. Richardson.* 592, 574 (2003)

Coronal Structure of a Flaring Region and Associated Coronal Mass Ejection. *P. K. Manoharan & M. R. Kundu.* 592, 597 (2003)

Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

Role of Magnetic Flux Distribution in Coronal Energy Storage. *Richard Wolfson.* 593, 1208 (2003)

Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

SUN: FILAMENTS

Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

SUN: FLARES

Periodicities in Solar Flare Occurrence: Analysis of Cycles 19–23. *T. Bai.* 591, 406 (2003)

Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24. *K. Watanabe, Y. Muraki, Y. Matsubara, K. Murakami, T. Sako, H. Tsuchiya, S. Masuda, M. Yoshimori, N. Ohmori, P. Miranda, N. Martinic, R. Ticona, A. Velarde, F. Kakimoto, S. Ogio, Y. Tsunesada, H. Tokuno, & Y. Shirasaki.* 592, 590 (2003)

Coronal Structure of a Flaring Region and Associated Coronal Mass Ejection. *P. K. Manoharan & M. R. Kundu.* 592, 597 (2003)

The Effect of the Compton Backscattering Component on the Photon Spectra of Three *Yohkoh*/Hard X-Ray Telescope Flares. *Jian Zhang & Guang Li Huang.* 592, L49 (2003)

Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

SUN: HELIOSEISMOLOGY

A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot beneath the Solar Surface. *Junwei Zhao & Alexander G. Kosovichev.* 591, 446 (2003)

Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

Helioseismic Signals and Wave Field Helioseismology. *C. H. Tong, M. J. Thompson, M. R. Warner, & C. C. Pain.* 593, 1242 (2003)

SUN: INFRARED

On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

SUN: INTERIOR

A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot beneath the Solar Surface. *Junwei Zhao & Alexander G. Kosovichev.* 591, 446 (2003)

Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

SUN: MAGNETIC FIELDS

Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

Coronal Structure of a Flaring Region and Associated Coronal Mass Ejection. *P. K. Manoharan & M. R. Kundu.* 592, 597 (2003)

The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

On the Detection of the Signature of Silicon Nanoparticle Dust Grains in Coronal Holes. *Shadia Rifai Habbal, Martina Belz Arndt, Munir H. Nayfeh, Jean Arnaud, Judd Johnson, Steve Hegwer, Richard Woo, Alexandru Ene, & Feras Habbal.* 592, L87 (2003)

Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

Study of Ribbon Separation of a Flare Associated with a Quiescent Filament Eruption. *Haimin Wang, Jiong Qui, Ju Jing, & Hongqi Zhang.* 593, 564 (2003)

Magnetic Fields in the Quiet Sun: Observational Discrepancies and Unresolved Structure. *H. Socas-Navarro & J. Sánchez Almeida.* 593, 581 (2003)

Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

Role of Magnetic Flux Distribution in Coronal Energy Storage. *Richard Wolfson.* 593, 1208 (2003)

Helicity Evolution in Emerging Active Regions. *Alexei A. Pevtsov, Vasily M. Maleev, & Dana W. Longcope.* 593, 1217 (2003)

Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

Observational Evidence of a Magnetic Flux Rope Eruption Associated with the X3 Flare on 2002 July 15. *Yu Liu, Yunchun Jiang, Haishen Ji, Hongqi Zhang, & Haimin Wang.* 593, L137 (2003)

SUN: OSCILLATIONS

Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

A Comparison of Solar p-Mode Parameters from MDI and GONG: Mode Frequencies and Structure Inversion. *S. Basu, J. Christensen-Dalsgaard, R. Howe, J. Schou, M. J. Thompson, F. Hill, & R. Komm.* 591, 432 (2003)

Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot beneath the Solar Surface. *Junwei Zhao & Alexander G. Kosovichev.* 591, 446 (2003)

Global Parameter and Helioseismic Tests of Solar Variability Models. *L. H. Li, S. Basu, S. Sofia, F. J. Robinson, P. Demarque, & D. B. Guenther.* 591, 1267 (2003)

SUN: PARTICLE EMISSION

Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

SUN: PHOTOSPHERE

Solar System Abundances and Condensation Temperatures of the Elements. *Katharina Lodders.* 591, 1220 (2003)

Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

The Accuracy of the Center-of-Gravity Method for Measuring Velocity and Magnetic Field Strength in the Solar Photosphere. *H. Uitenbroek.* 592, 1225 (2003)

Magnetic Fields in the Quiet Sun: Observational Discrepancies and Unresolved Structure. *H. Socas-Navarro & J. Sánchez Almeida.* 593, 581 (2003)

SUN: PROMINENCES

Constraints on the Magnetic Field Geometry in Prominences. *J. T. Karpen, S. K. Antiochos, J. A. Klimchuk, & P. J. MacNeice.* 593, 1187 (2003)

SUN: RADIO RADIATION

Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

Properties of Fast Submillimeter Time Structures during a Large Solar Flare. *Jean-Pierre Raulin, Pierre Kaufmann, Carlos G. Giménez de Castro, Alessandra A. Pacini, Vladimir S. Makhmutov, Hugo Levato, & Marta Rovira.* 592, 580 (2003)

Coronal Structure of a Flaring Region and Associated Coronal Mass Ejection. *P. K. Manoharan & M. R. Kundu.* 592, 597 (2003)

Polarization and Fragmentation of Solar Type II Radio Bursts. *G. Thejappa, P. Zlobec, & R. J. MacDowall.* 592, 1234 (2003)

Decimetric Spike Bursts versus Microwave Continuum. *Gregory D. Fleishman, Dale E. Gary, & Gelu M. Nita.* 593, 571 (2003)

A Model of Zebra Emission in Solar Type IV Radio Bursts. *J. LaBelle, R. A. Treumann, P. H. Yoon, & M. Karlicky.* 593, 1195 (2003)

SUN: SOLAR-TERRESTRIAL RELATIONS

Modeling the Sun's Large-Scale Magnetic Field during the Maunder Minimum. *Y.-M. Wang & N. R. Sheeley, Jr.* 591, 1248 (2003)

Metric Radio Observations of the Evolution of a "Halo" Coronal Mass Ejection Close to the Sun. *R. Ramesh, C. Kathiravan, & Ch. V. Sastry.* 591, L163 (2003)

Loss Cone Precursors to Forbush Decreases and Advance Warning of Space Weather Effects. *K. Leerungnavarat, D. Ruffolo, & J. W. Bieber.* 593, 587 (2003)

SUN: SOLAR WIND

Cosmic-Ray Spectra at Spherical Termination Shocks. *V. Florinski & J. R. Jokipii.* 591, 454 (2003)

Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

Probing the Edge of the Solar System: Formation of an Unstable Jet-Sheet. *Merav Opher, Paulett C. Liewer, Tamas I. Gombosi, Ward Manchester, Darren L. DeZeeuw, Igor Sokolov, & Gabor Toth.* 591, L61 (2003)

Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons. *Philip A. Isenberg, Charles W. Smith, & William H. Matthaeus.* 592, 564 (2003)

Coronal Mass Ejections, the Tail of the Solar Wind Magnetic Field Distribution, and 11 Year Cosmic-Ray Modulation at 1 AU. *E. W. Cliver, A. G. Ling, & I. G. Richardson.* 592, 574 (2003)

Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

SUN: SUNSPOTS

Wavelet Analysis of Umbral Oscillations. *E. B. Christopoulou, A. Skodras, A. A. Georgakilas, & S. Koutchmy.* 591, 416 (2003)

Helioseismic Observation of the Structure and Dynamics of a Rotating Sunspot beneath the Solar Surface. *Junwei Zhao & Alexander G. Kosovichev.* 591, 446 (2003)

Helicity Evolution in Emerging Active Regions. *Alexei A. Pevtsov, Vasily M. Maleev, & Dana W. Longcope.* 593, 1217 (2003)

SUN: UV RADIATION

Non-LTE Model Atmospheres for Late-Type Stars. II. Restricted Non-LTE Calculations for a Solar-like Atmosphere. *Carlos Allende Prieto, Ivan Hubeny, & David L. Lambert.* 591, 1192 (2003)

The Variability of the Solar Coronal Helium Abundance: Polar Coronal Holes Compared to the Quiet Sun. *J. Martin Laming & Uri Feldman.* 591, 1257 (2003)

Properties of Solar Plasmas near Solar Maximum above Two Quiet Regions at Distances of 1.02–1.34 $R_\odot$. *E. Landi & U. Feldman.* 592, 607 (2003)

Solar Coronal Heating and the Magnetic Flux Content of the Network. *D. A. Falconer, R. L. Moore, J. G. Porter, & D. H. Hathaway.* 593, 549 (2003)

Temporal Evolution of a Streamer Complex: Coronal and in Situ Plasma Parameters. *A. Bemporad, G. Poletto, S. T. Suess, Y.-K. Ko, S. Parenti, P. Riley, M. Romoli, & T. Z. Zurbuchen.* 593, 1146 (2003)

Evolving Active Region Loops Observed With the *Transition Region and Coronal Explorer*. I. Observations. *Amy R. Winebarger, Harry P. Warren, & Daniel B. Seaton.* 593, 1164 (2003)

Evolving Active Region Loops Observed with the *Transition Region and Coronal Explorer*. II. Time-Dependent Hydrodynamic Simulations. *Harry P. Warren, Amy R. Winebarger, & John T. Mariska.* 593, 1174 (2003)

Free-Free Emission in the Far-Ultraviolet Spectral Range: A Resource for Diagnosing Solar and Stellar Flare Plasmas. *U. Feldman, E. Landi, G. A. Doschek, I. Dammasch, & W. Curdt.* 593, 1226 (2003)

SUN: X-RAYS, GAMMA RAYS

Solar Neutron Event in Association with a Large Solar Flare on 2000 November 24. *K. Watanabe, Y. Muraki, Y. Matsubara, K. Murakami, T. Sako, H. Tsuchiya, S. Masuda, M. Yoshimori, N. Ohmori, P. Miranda, N. Martinic, R. Ticona, A. Velarde, F. Kakimoto, S. Ogio, Y. Tsunesada, H. Tokuno, & Y. Shirasaki.* 592, 590 (2003)

The Effect of the Compton Backscattering Component on the Photon Spectra of Three *Yohkoh*/Hard X-Ray Telescope Flares. *Jian Zhang & Guang Li Huang.* 592, L49 (2003)

An Estimate of the Sun's *ROSAT*-PSPC X-Ray Luminosities Using *SNOE*-SXP Measurements. *Philip G. Judge, Stanley C. Solomon, & Thomas R. Ayres.* 593, 534 (2003)

Magnetohydrodynamic Numerical Simulations of Solar X-Ray Jets Based on the Magnetic Reconnection Model That Includes Chromospheric Evaporation. *Takehiro Miyagoshi & Takaaki Yokoyama.* 593, L133 (2003)

SURVEYS

Decline of the Space Density of Quasars between $z = 2$ and $z = 4$. *M. Vigotti, R. Carballo, C. R. Benn, G. De Zotti, R. Fanti, J. I. Gonzalez Serrano, K.-H. Mack, & J. Holt.* 591, 43 (2003)

Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

Ellipsoidal Variability in the OGLE Planetary Transit Candidates. *E. Sirko & B. Paczyński.* 592, 1217 (2003)

The Incidence of Strong-Lensing Clusters in the Red-Sequence Cluster Survey. *Michael D. Gladders, Henk Hoekstra, H. K. C. Yee, Patrick B. Hall, & L. Felipe Barrientos.* 593, 48 (2003)

TECHNIQUES: HIGH ANGULAR RESOLUTION

A Search for Close Binaries in the ρ Ophiuchi Star-forming Region. *M. Barsony, C. Koresko, & K. Matthews.* 591, 1064 (2003)

TECHNIQUES: IMAGE PROCESSING

A Fluorescent Aerogel for Capture and Identification of Interplanetary and Interstellar Dust. *Gerardo Domínguez, Andrew J. Westphal, Mark L. F. Phillips, & Steven M. Jones.* 592, 631 (2003)

TECHNIQUES: INTERFEROMETRIC

The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager. *T. J. Pearson, B. S. Mason, A. C. S. Readhead, M. C. Shepherd, J. L. Sievers, P. S. Udomprasert, J. K. Cartwright, A. J. Farmer, S. Padin, S. T. Myers, J. R. Bond, C. R. Contaldi, U.-L. Pen, S. Prunet, D. Pogosyan, J. E. Carlstrom, J. Kovac, E. M. Leitch, C. Pryke, N. W. Halverson, W. L. Holzapfel, P. Altamirano, L. Bronfman, S. Casassus, J. May, & M. Joy.* 591, 556 (2003)

Probing Planck-Scale Physics with Extragalactic Sources? *Y. Jack Ng, W. A. Christiansen, & H. van Dam.* 591, L87 (2003)

Envelope Emission in Young Stellar Systems: A Subarcsecond Survey of Circumstellar Structure. *Leslie W. Looney, Lee G. Mundy, & W. J. Welch.* 592, 255 (2003)

High-Resolution Broadband Spectroscopy Using an Externally Dispersed Interferometer. *David J. Erskine, Jerry Edelstein, W. Michael Feuerstein, & Barry Welsh.* 592, L103 (2003)

TECHNIQUES: MISCELLANEOUS

Prospects for the Detection of Electromagnetic Counterparts to Gravitational Wave Events. *Julien Sylvestre.* 591, 1152 (2003)

TECHNIQUES: PHOTOMETRIC

Has the Optical Extragalactic Background Light Been Detected? *K. Mattila.* 591, 119 (2003)

The Optical/Near-Infrared Light Curves of SN 2002ap for the First 140 Days after Discovery. *Yuzuru Yoshii, Hiroyuki Tomita, Yukiyasu Kobayashi, Jinsong Deng, Keiichi Maeda, Ken'ichi Nomoto, Paolo A. Mazzali, Hideyuki Umeda, Tsutomu Aoki, Mamoru Doi, Keigo Enya, Takeo Minezaki, Masahiro Suganuma, & Bruce A. Peterson.* 592, 467 (2003)

Finding White Dwarfs with Transit Searches. *Alison J. Farmer & Eric Agol.* 592, 1151 (2003)

Ellipsoidal Variability in the OGLE Planetary Transit Candidates. *E. Sirko & B. Paczyński.* 592, 1217 (2003)

Expected Detection and False Alarm Rates for Transiting Jovian Planets. *Timothy M. Brown.* 593, L125 (2003)

TECHNIQUES: POLARIMETRIC

Spectropolarimetry of SN 2001el in NGC 1448: Asphericity of a Normal Type Ia Supernova. *Lifan Wang, Dietrich Baade, Peter Höflich, Alexei Khokhlov, J. Craig Wheeler, D. Kasen, Peter E. Nugent, Saul Perlmutter, Claes Fransson, & Peter Lundqvist.* 591, 1110 (2003)

Spectropolarimetry of the Type Ic Supernova SN 2002ap in M74: More Evidence for Asymmetric Core Collapse. *Lifan Wang, Dietrich Baade, Peter Höflich, & J. Craig Wheeler.* 592, 457 (2003)

TECHNIQUES: SPECTROSCOPIC

A Near-Infrared Spectroscopic Screening of the Red Giant Populations in ω Centauri. *Livia Origlia, Francesco R. Ferraro, Michele Bellazzini, & Elena Pancino.* 591, 916 (2003)

Laboratory Infrared Spectroscopy of Cationic Polycyclic Aromatic Hydrocarbon Molecules. *Jos Oomens, A. G. G. M. Tielens, Boris G. Sartakov, Gert von Helden, & Gerard Meijer.* 591, 968 (2003)

Evidence for a T Tauri Phase in Young Brown Dwarfs. *Ray Jayawardhana, Subhanjoy Mohanty, & Gibor Basri.* 592, 282 (2003)

The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

Spectroscopic Estimate of Surface Gravity for a Planetary Member in the σ Orionis Cluster. *Eduardo L. Martin & M. R. Zapatero Osorio.* 593, L113 (2003)

TURBULENCE

Photoelectric Heating and [C II] Cooling in Translucent Clouds: Results for Cloud Models Based on Simulations of Compressible Magnetohydrodynamic Turbulence. *M. Juvela, P. Padoan, & R. Jimenez.* 591, 258 (2003)

Saturation of the r-Mode Instability. *Phil Arras, Eanna E. Flanagan, Sharon M. Morsink, A. Katrin Schenk, Saul A. Teukolsky, & Ira Wasserman.* 591, 1129 (2003)

Dynamic Cores in Hydrostatic Disguise. *Javier Ballesteros-Paredes, Ralf S. Klessen, & Enrique Vázquez-Semadeni.* 592, 188 (2003)

Turbulent Heating of the Distant Solar Wind by Interstellar Pickup Protons. *Philip A. Isenberg, Charles W. Smith, & William H. Matthaeus.* 592, 564 (2003)

Grain Acceleration by Magnetohydrodynamic Turbulence: Gyroresonance Mechanism. *Huirong Yan & A. Lazarian.* 592, L33 (2003)

Statistics of Velocity from Spectral Data: Modified Velocity Centroids. *A. Lazarian & A. Esquivel.* 592, L37 (2003)

The Formation of Stellar Clusters in Turbulent Molecular Clouds: Effects of the Equation of State. *Yuexing Li, Ralf S. Klessen, & Mordecai-Mark Mac Low.* 592, 975 (2003)

Three-dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows. *Igor V. Igumenshchev, Ramesh Narayan, & Marek A. Abramowicz.* 592, 1042 (2003)

A Turbulent Origin for Flocculent Spiral Structure in Galaxies. II. Observations and Models of M33. *Bruce G. Elmegreen, Samuel N. Leitner, Debra Meloy Elmegreen, & Jean-Charles Cuillandre.* 593, 333 (2003)

Mechanisms for the Origin of Turbulence in Non–Star-forming Clouds: The Translucent Cloud MBM 40. *Steven N. Shore, Loris Magnani, T. N. LaRosa, & Meredith N. McCarthy.* 593, 413 (2003)

On the Use of Fractional Brownian Motion Simulations to Determine the Three-dimensional Statistical Properties of Interstellar Gas. *M.-A. Miville-Deschenes, F. Levrier, & E. Falgarone.* 593, 831 (2003)

ULTRAVIOLET: GALAXIES

Age and Abundance Discrimination in Old Stellar Populations Using Mid-Ultraviolet Colors. *Ben Dorman, Robert W. O'Connell, & Robert T. Rood.* 591, 878 (2003)

Constraints on a Universal Initial Mass Function from Ultraviolet to Near-Infrared Galaxy Luminosity Densities. *Ivan K. Baldry & Karl Glazebrook.* 593, 258 (2003)

ULTRAVIOLET: ISM

Oxygen Gas-Phase Abundance Revisited. *M. K. André, C. M. Oliveira, J. C. Howk, R. Ferlet, J.-M. Désert, G. Hébrard, S. Lacour, A. Lecavelier des Étangs, A. Vidal-Madjar, & H. W. Moos.* 591, 1000 (2003)

A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

The Role of Polycyclic Aromatic Hydrocarbons in Ultraviolet Extinction. I. Probing Small Molecular Polycyclic Aromatic Hydrocarbons. *Geoffrey C. Clayton, Karl D. Gordon, F. Salama, L. J. Allamandola, Peter G. Martin, T. P. Snow, D. C. B. Whittet, A. N. Witt, & Michael J. Wolff.* 592, 947 (2003)

On the Origin of the High-Ionization Intermediate-Velocity Gas toward HD 14434. *David C. Knauth, J. Christopher Howk, Kenneth R. Sembach, James T. Lauroesch, & David M. Meyer.* 592, 964 (2003)

ULTRAVIOLET: STARS

The Spatial Distribution of Fluorescent H_2 Emission near T Tauri. *José Saucedo, Nuria Calvet, Lee Hartmann, & John Raymond.* 591, 275 (2003)

A Search for Lyα Emission from the Astrosphere of 40 Eridani A. *Brian E. Wood, Jeffrey L. Linsky, Hans-Reinhard Mueller, & Gary P. Zank.* 591, 1210 (2003)

The Effects of UV Continuum and Lyα Radiation on the Chemical Equilibrium of T Tauri Disks. *Edwin Bergin, Nuria Calvet, Paola D'Alessio, & Gregory J. Herczeg.* 591, L159 (2003)

Ultraviolet Spectra of Cataclysmic Variable Accretion Disks with Nonsteady $T(r)$ Laws. *Jerome A. Orosz & Richard A. Wade.* 593, 1032 (2003)

A Multiwavelength Study of the High-Field Magnetic White Dwarf EUVE J0317−85.5 (=RE J0317−853). *Stéphane Vennes, G. D. Schmidt, L. Ferrario, D. J. Christian, D. T. Wickramasinghe, & A. Kawka.* 593, 1040 (2003)

The Extreme-Ultraviolet Continuum of a Strong Stellar Flare. *D.J. Christian, M. Mathioudakis, D. Jevremovic, J. Dupuis, S. Vennes, & A. Kawka.* 593, L105 (2003)

WAVES

Modeling Shock-accelerated Solar Energetic Particles Coupled to Interplanetary Alfvén Waves. *C. K. Ng, D. V. Reames, & A. J. Tylka.* 591, 461 (2003)

Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

Generation of Suprathermal Electrons by Resonant Wave-Particle Interaction in the Solar Corona and Wind. *C. Vocks & G. Mann.* 593, 1134 (2003)

X-RAYS: BINARIES

A *Chandra* X-Ray Study of NGC 1068. II. The Luminous X-Ray Source Population. *David A. Smith & Andrew S. Wilson.* 591, 138 (2003)

Rayleigh-Taylor Gravity Waves and Quasi-periodic Oscillation Phenomena in X-Ray Binaries. *Lev Titarchuk.* 591, 354 (2003)

Resolved Jets and Long-Period Black Hole X-Ray Novae. *M. R. Garcia, J. M. Miller, J. E. McClintock, A. R. King, & J. Orosz.* 591, 388 (2003)

A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

Dynamical Formation of Close Binary Systems in Globular Clusters. *David Pooley, Walter H. G. Lewin, Scott F. Anderson, Holger Baumgardt, Alexei V. Filippenko, Bryan M. Gaensler, Lee Homer, Piet Hut, Victoria M. Kaspi, Junichiro Makino, Bruce Margon, Steve McMillan, Simon Portegies Zwart, Michiel van der Klis, & Frank Verbunt.* 591, L131 (2003)

The X-Ray Spectral Changes of Scorpius X-1. *C. F. Bradshaw, B. J. Geldzahler, & E. B. Fomalont.* 592, 486 (2003)

Chandra Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

Correlated Radio:X-Ray Emission in the Hard States of Galactic Microquasars. *M. Choudhury, A. R. Rao, S. V. Vadawale, & A. K. Jain.* 593, 452 (2003)

Nonaxisymmetric g-Mode and p-Mode Instability in a Hydrodynamic Thin Accretion Disk. *Li-Xin Li, Jeremy Goodman, & Ramesh Narayan.* 593, 980 (2003)

X-Ray Dip Monitoring of XB 1916−053. *T. Narita, J. E. Grindlay, P. F. Bloser, & Y. Chou.* 593, 1007 (2003)

X-RAYS: BURSTS

Atomic Spectral Features during Thermonuclear Flashes on Neutron Stars. *Lars Bildsten, Philip Chang, & Frits Paerels.* 591, L29 (2003)

The Bursting Behavior of 4U 1728−34: The Parameters of a Neutron Star and the Geometry of a Neutron Star–Disk System. *Nickolai Shaposhnikov, Lev Titarchuk, & Frank Haberl.* 593, L35 (2003)

On the Enhanced X-Ray Emission from SGR 1900+14 after the August 27 Giant Flare. *Unal Ertan & M.A. Alpar.* 593, L93 (2003)

X-RAYS: GALAXIES

Chandra Observations of Extended X-Ray Emission in Arp 220. *J. C. McDowell, D. L. Clements, S. A. Lamb, S. Shaked, N. C. Hearn, L. Colina, C. Mundell, K. Borne, A. C. Baker, & S. Arribas.* 591, 154 (2003)

QSOs Associated with Messier 82. *E. Margaret Burbidge, Geoffrey Burbidge, Halton C. Arp, & Stefano Zibetti.* 591, 690 (2003)

Timescales of Soft X-Ray Variability and Physical Constraints in Active Galactic Nuclei. *W. Bian & Y. Zhao.* 591, 733 (2003)

A Variable Ultraluminous Supersoft X-Ray Source in "The Antennae": Stellar-Mass Black Hole or White Dwarf? *G. Fabbiano, A. R. King, A. Zezas, T. J. Ponman, A. Rots, & François Schweizer.* 591, 843 (2003)

Follow-Up *Hubble Space Telescope*/Space Telescope Imaging Spectroscopy of Three Candidate Tidal Disruption Events. *S. Gezari, J. P. Halpern, S. Komossa, D. Grupe, & K. M. Leighly.* 592, 42 (2003)

X-Ray Emission from the Hot Interstellar Medium and Southwest Radio Lobe of the Nearby Radio Galaxy Centaurus A. *R. P. Kraft, S. E. Vázquez, W. R. Forman, C. Jones, S. S. Murray, M. J. Hardcastle, D. M. Worrall, & E. Churazov.* 592, 129 (2003)

A *Chandra* Survey of the Nearest Ultraluminous Infrared Galaxies: Obscured Active Galactic Nuclei or Superstarbursts? *A. Ptak, T. Heckman, N. A. Levenson, K. Weaver, & D. Strickland.* 592, 782 (2003)

Luminous Supersoft X-Ray Sources in External Galaxies. *R. Di Stefano & A. K. H. Kong.* 592, 884 (2003)

Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

X-Ray Fluctuation Power Spectral Densities of Seyfert 1 Galaxies. *A. Markowitz, R. Edelson, S. Vaughan, P. Uttley, I. M. George, R. E. Griffiths, S. Kaspi, A. Lawrence, I. McHardy, K. Nandra, K. Pounds, J. Reeves, N. Schurch, & R. Warwick.* 593, 96 (2003)

Nuclear Activity and Massive Star Formation in the Low-Luminosity Active Galactic Nucleus NGC 4303: *Chandra* X-Ray Observations. *E. Jiménez-Bailón, M. Santos-Lleó, J. M. Mas-Hesse, M. Guainazzi, L. Colina, M. Cerviño, & Rosa M. González Delgado.* 593, 127 (2003)

The Kinematics and Physical Conditions of the Ionized Gas in NGC 4593 from *Chandra* High-Energy Grating Spectroscopy. *Barry McKernan, Tahir Yaqoob, Ian M. George, & T. J. Turner.* 593, 142 (2003)

BeppoSAX Observations of Centaurus A: The Hard Continuum and the Iron-Line Feature. *P. Grandi, M. Fiocchi, C. G. Perola, C. M. Urry, L. Maraschi, E. Massaro, G. Matt, A. Preite-Martinez, H. Steinle, & W. Collmar.* 593, 160 (2003)

Radio and X-Ray Observations of the Jet in Centaurus A. *M. J. Hardcastle, D. M. Worrall, R. P. Kraft, W. R. Forman, C. Jones, & S. S. Murray.* 593, 169 (2003)

A Massive X-Ray Outflow from the Quasar PDS 456. *J. N. Reeves, P. T. O'Brien, & M. J. Ward.* 593, L65 (2003)

X-RAYS: GALAXIES: CLUSTERS

Cluster Sunyaev-Zeldovich Effect Scaling Relations. *Ian G. McCarthy, Arif Babul, Gilbert P. Holder, & Michael L. Balogh.* 591, 515 (2003)

The Sunyaev-Zeldovich Effect Signature of Excess Entropy in Distant, Massive Clusters. *Ian G. McCarthy, Gilbert P. Holder, Arif Babul, & Michael L. Balogh.* 591, 526 (2003)

SMAUG: A New Technique for the Deprojection of Galaxy Clusters. *Fabio Pizzolato, Silvano Molendi, Simona Ghizzardi, & Sabrina De Grandi.* 592, 62 (2003)

Simulations of Buoyant Bubbles in Galaxy Clusters. *M. Brüggen.* 592, 839 (2003)

On the Origin of Intracluster Entropy. *G. Mark Voit, Michael L. Balogh, Richard G. Bower, Cedric G. Lacey, & Greg L. Bryan.* 593, 272 (2003)

Chandra Observation of the Merging Cluster A2034. *Joshua C. Kempner, Craig L. Sarazin, & Maxim Markevitch.* 593, 291 (2003)

Equilibrium Models of Galaxy Clusters with Cooling, Heating, and Conduction. *M. Brüggen.* 593, 700 (2003)

Iron Abundance in the Intracluster Medium at High Redshift. *P. Tozzi, P. Rosati, S. Ettori, S. Borgani, V. Mainieri, & C. Norman.* 593, 705 (2003)

X-RAYS: GENERAL

X-Ray Spectra of Young Pulsars and Their Wind Nebulae: Dependence on Spin-Down Energy Loss Rate. *E. V. Gotthelf.* 591, 361 (2003)

PSR J1847−0130: A Radio Pulsar with Magnetar Spin Characteristics. *M. A. McLaughlin, I. H. Stairs, V. M. Kaspi, D. R. Lorimer, M. Kramer, A. G. Lyne, R. N. Manchester, F. Camilo, G. Hobbs, A. Possenti, N. D'Amico, & A. J. Faulkner.* 591, L135 (2003)

Assessment of the Fluorescence and Auger Database used in Plasma Modeling. *T. W. Gorczyca, C. N. Kodituwakku, K. T. Korista, O. Zatsarinny, N. R. Badnell, E. Behar, M. H. Chen, & D. W. Savin.* 592, 636 (2003)

Lens or Binary? *Chandra* Observations of the Wide-Separation Broad Absorption Line Quasar Pair UM 425. *Thomas L. Aldcroft & Paul J. Green.* 592, 710 (2003)

Tracing the Large-Scale Structure in the *Chandra* Deep Field South. *R. Gilli, A. Cimatti, E. Daddi, G. Hasinger, P. Rosati, G. Szokoly, P. Tozzi, J. Bergeron, S. Borgani, R. Giacconi, L. Kewley, V. Mainieri, M. Mignoli, M. Nonino, C. Norman, J. Wang, G. Zamorani, W. Zheng, & A. Zirm.* 592, 721 (2003)

The Contribution of Particle Impact to the Production of Fe Kα Emission from Accreting Black Holes. *D. R. Ballantyne & A. C. Fabian.* 592, 1089 (2003)

Ejecta Detection in Middle-aged Large Magellanic Cloud Supernova Remnants 0548−70.4 and 0534−69.9. *S. P. Hendrick, K. J. Borkowski, & S. P. Reynolds.* 593, 370 (2003)

Recombination X-Ray Line Formation of Iron L-Shell Ions in Low Temperature Plasmas. *M. F. Gu.* 593, 1249 (2003)

X-RAYS: INDIVIDUAL

Name: Galactic Ridge

RXTE, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

Alphanumeric: CXOU J112439.1−591620

An X-Ray Pulsar in the Oxygen-rich Supernova Remnant G292.0+1.8. *John P. Hughes, Patrick O. Slane, Sangwook Park, Peter W. A. Roming, & David N. Burrows.* 591, L139 (2003)

Alphanumeric: G347.3−0.5

RXTE, *ROSAT*, and *ASCA* Observations of G347.3−0.5 (RX J1713.7−3946): Probing Cosmic-Ray Acceleration by a Galactic Shell-Type Supernova Remnant. *Thomas G. Pannuti, Glenn E. Allen, John C. Houck, & Steven J. Sturner.* 593, 377 (2003)

Alphanumeric: 4U 1700−37

Chandra Grating Spectroscopy of the X-Ray Binary 4U 1700−37 in a Flaring State. *Bram Boroson, Saeqa Dil Vrtilek, Timothy Kallman, & Michael Corcoran.* 592, 516 (2003)

X-RAYS: ISM

Chandra X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

Chandra Detection of the High Magnetic Field Radio Pulsar J1119−6127 in the Supernova Remnant G292.2−0.5. *Marjorie Gonzalez & Samar Safi-Harb.* 591, L143 (2003)

Detection of Magnesium-rich Ejecta in the Middle-aged Supernova Remnant N49B. *Sangwook Park, John P. Hughes, Patrick O. Slane, David N. Burrows, Jessica S. Warren, Gordon P. Garmire, & John A. Nousek.* 592, L41 (2003)

An X-Ray Image of the Composite Supernova Remnant G16.7+0.1. *David J. Helfand, Marcel A. Agueros, & E. V. Gotthelf.* 592, 941 (2003)

Thermal X-Ray Emission from Shocked Ejecta in Type Ia Supernova Remnants. Prospects for Explosion Mechanism Identification. *Carles Badenes, Eduardo Bravo, Kazimierz J. Borkowski, & Inmaculada Domínguez.* 593, 358 (2003)

X-RAYS: STARS

Detection of Pulsed X-Ray Emission from *XMM-Newton* Observations of PSR J0538+2817. *K. E. McGowan, J. A. Kennea, S. Zane, F. A. Córdova, M. Cropper, C. Ho, T. Sasseen, & W. T. Vestrand.* 591, 380 (2003)

Chandra X-Ray Spectroscopic Imaging of Sagittarius A* and the Central Parsec of the Galaxy. *F. K. Baganoff, Y. Maeda, M. Morris, M. W. Bautz, W. N. Brandt, W. Cui, J. P. Doty, E. D. Feigelson, G. P. Garmire, S. H. Pravdo, G. R. Ricker, & L. K. Townsley.* 591, 891 (2003)

The Variable Jet of the Vela Pulsar. *G. G. Pavlov, M. A. Teter, O. Kargaltsev, & D. Sanwal.* 591, 1157 (2003)

Gamma-Ray Bursts as X-Ray Depth Gauges of the Universe. *P. Mészáros & M. J. Rees.* 591, L91 (2003)

Magnetic Flares on Asymptotic Giant Branch Stars. *Noam Soker & Joel H. Kastner.* 592, 498 (2003)

X-Ray Emission-Line Profile Modeling of O Stars: Fitting a Spherically Symmetric Analytic Wind-Shock Model to the *Chandra* Spectrum of ζ Puppis. *Roban H. Kramer, David H. Cohen, & Stanley P. Owocki.* 592, 532 (2003)

X-Ray Flares and Oscillations from the Black Hole Candidate X-Ray Transient XTE J1650−500 at Low Luminosity. *John A. Tomsick, Emrah Kalemci, Stephane Corbel, & Philip Kaaret.* 592, 1100 (2003)

Spectral and Temporal Behavior of the Black Hole Candidate XTE J1118+480 as Observed with *BeppoSAX*. *F. Frontera, L. Amati, A. A. Zdziarski, T. Belloni, S. Del Sordo, N. Masetti, M. Orlandini, & E. Palazzi.* 592, 1110 (2003)

Isolated Magnetar Spin-Down, Soft X-Ray Emission, and RX J1856.5−3754. *Kaya Mori & Malvin A. Ruderman.* 592, L75 (2003)

Comptonization in Super-Eddington Accretion Flow and Growth Timescale of Supermassive Black Holes. *Toshihiro Kawaguchi.* 593, 69 (2003)

The Disk-Jet Connection in Microquasars and Active Galactic Nuclei. *Mario Livio, J. E. Pringle, & A. R. King.* 593, 184 (2003)

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence. *Jeffrey E. McClintock, Ramesh Narayan, Michael R. Garcia, Jerome A. Orosz, Ronald A. Remillard, & Stephen S. Murray.* 593, 435 (2003)

Magnetic Inhibition of Accretion and Observability of Isolated Old Neutron Stars. *O. D. Toropina, M. M. Romanova, Yu. M. Toropin, & R. V. E. Lovelace.* 593, 472 (2003)

Chandra Observations of Magnetic White Dwarfs and Their Theoretical Implications. *Z. E. Musielak, M. Noble, J. G. Porter, & D. E. Winget.* 593, 481 (2003)

X-Ray Observations of the Compact Central Object in Supernova Remnant G347.3−0.5. *J. S. Lazendic, P. O. Slane, B. M. Gaensler, P. P. Plucinsky, J. P. Hughes, D. K. Galloway, & F. Crawford.* 593, L27 (2003)

10 MK Gas in M17 and the Rosette Nebula: X-Ray Flows in Galactic H II Regions. *Leisa K. Townsley, Eric D. Feigelson, Thierry Montmerle, Patrick S. Broos, You-Hua Chu, & Gordon P. Garmire.* 593, 874 (2003)

Constraints on Pulsar Magnetospheric and Wind Parameters for the Compact Nebulae of Vela and PSR B1706−44. *Ramotholo R. Sefako & Ocker C. de Jager.* 593, 1013 (2003)

Optical and X-Ray Properties of Cooling Neutron Stars. *Don A. Lloyd, Lars Hernquist, & Jeremy S. Heyl.* 593, 1024 (2003)